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PRACTICAL REMARKS ON BLOOD-LETTING.

[CONCLUDED.]

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In many of the diseases of the *urinary* and *genito-urinary* organs, blood-letting is required.

In several of the diseases of the *kidneys*, it is very necessary.

In *acute nephritis*, if the patient is of vigorous constitution, and the attack severe, free general and local bleeding is necessary; but in milder cases, and in pyelitis, local bleeding is generally sufficient. PROUT and WOOD recommend this course. But not only in simple nephritis, but in inflammation of the kidneys in a previously diseased or degenerated state, especially if in an hæmotrophied condition, should also be "promptly met at the very outset by active antiphlogistic treatment. A few cases will require general blood-letting, and almost all will be benefited by local depletion; such as by cupping or leeching over the loins, etc." [PROUT.] When the inflamed degenerated kidney is in the anæmotrophied condition, the same author remarks that general depletion must be more cautiously used; and cups or leeches applied over the loins, or leeches to the perineum or anus, will often be of great service. ROBERTS, in his work on "Urinary and Renal Diseases," recommends

venesection in those cases of renal calculi accompanied by a "highly sthenic condition;" and cupping or leeching the lumbar region in those cases, and also in active congestion of the kidneys; in passive congestion, when produced by a temporary cause, as pregnancy, etc.; in suppurative inflammation, and in pyelitis.

In *nephralgia*, if accompanied by tenderness of the loins, cupping or leeching that region will sometimes be attended by relief.

Ischuria renalis, or suppression of urine, is occasionally, though but seldom, an idiopathic affection. When idiopathic, or when symptomatic, if caused by acute nephritis, or vascular irritation of the kidneys, or is attendant upon acute inflammation of other organs, or idiopathic fevers, blood should be freely taken from the arm, and the loins cupped. If owing to calculi in the pelves of the kidneys, or in the ureters, the same remedies, with a view to relaxation, as well as to subdue inflammation, may be required. When dependent upon cerebral or spinal disorder, cups or leeches should be applied to the base of the cranium, or to the vertebræ. When occurring in the latter stages of albuminuria, or in disorganization of the kidneys, or in Asiatic cholera, it would be useless and improper.

Of *Diabetes*, I can say but little from personal experience, as I recollect having seen but one well-confirmed case, in a girl 8 years of age, and which proved fatal. ROBERTS makes no observations on depletion in this disease; but PROUT remarks: "In cases of recent occurrence, and of an acute character, there cannot be a doubt about the propriety, and even necessity of blood-letting; which may be repeated as often as the circumstances of the case may seem to require. In very protracted cases, however, occurring in old subjects, and, indeed, wherever the debility is excessive, this remedy can be seldom required; though even in such cases it has been shown that blood-letting can be borne much better than could be expected. In most cases, frequent local bleedings from the epigastric region have been found beneficial; particularly when an extraordinary sense of fulness, heat, or tenderness has been experi-

enced about the region of the stomach." Professor WOOD says that one of the indications for treatment is, "to alter the condition of the blood itself, which is probably the direct source of much of the functional and organic derangement which marks the progress of the disorder." This condition of the blood, he believes to be caused "by the loss of its water and salts through the kidneys, as well as by the imperfect assimilation of the nutriment thrown into it, the blood becoming depraved, and having an excess, probably, of the fibrinous and coloring ingredients." "Bleeding is the best palliative for this state of the blood. It tends to restore the equilibrium of the constituents; for the place of the blood abstracted is supplied with water and salts in larger proportion than with the animalized products. Nor does it materially weaken the patient. The vigor of the appetite, and the nutritious character of the food used, serve to obviate this result. The consequences are great relief to the uncomfortable feelings of the patient, a diminution of any inflammatory symptoms that may exist, and a reduction in the quantity of the urine." He then gives the same precautions in regard to its use that PROUT does.

In *hydruria*, or *simple diuresis*, venesection is seldom required; though where there is pain in the back, cups or leeches applied to the loins will often afford relief. I have had under my care, for six months past, a gentleman, 78 years of age, affected with severe diuresis, but in whose urine I could detect no trace of albumen, though several times subjected to the proper tests. His general health is much improved, pain entirely relieved, and the discharge of urine diminished, though still too great. Though suffering at first, and for some weeks, severe pains in the loins, and spasmodic pains in the neck of the bladder, I did not resort to local depletion, his age and debility precluding it. Narcotics and warm emollient applications, with infusions of uva ursi, or buchu, gradually relieved these symptoms; and tonics, carb. ammonia, and a generous diet are restoring him.

Bright's disease of the kidneys.—This term includes several pathological states of the kidneys, as albuminuria, different

inflammatory conditions, and different kinds of degeneration; but ROBERTS, one of the latest authorities on renal diseases, classifies them, from a clinical point of view, as "acute and chronic Bright's disease." "The former embraces a compact and uniformly recognized group, which formerly went under the name of inflammatory dropsy." The latter includes the protracted cases, which he divides into three types. In acute cases, if seen at the "time of invasion," he recommends that the loins should be cupped to the amount of 8 or 12 ounces, to be repeated if there is severe headache, coma, or convulsions. In very severe cases, of the sthenic type, and high fever, venesection is required. In the young, the robust, or the temperate, PROUT recommends both general and local depletion; but in the intemperate, the debilitated, or the aged, local depletion only; or, in a few cases, general bleeding, moderately. WOOD, also, gives similar advice. In the chronic form, cupping or leeching the loins is recommended.

Bladder.—In *acute cystitis*, venesection, and leeches applied to the pubic or perineal regions, are indicated. In chronic cystitis, or *cystorrhœa*, the application of leeches is generally all that is required for direct depletion. In *irritable bladder*, if the patient is robust, and there is a sthenic condition of system, moderate venesection, or cupping the loins, or leeching the perineum may be beneficial; but as the disease generally occurs in the aged, it is seldom proper to resort to these measures. In *spasm of the bladder*, or *retention of urine*, when produced by an inflammatory condition of the organ, general and local bleeding is called for; and in robust persons, for spasm, venesection may also be practised, with a view to its relaxing effect, when there are no symptoms of inflammation.

In *prostatitis*, the same measures are applicable.

In *orchitis*, if the patient is young and robust, venesection, and repeated leeching of the scrotum, are indicated. Since writing the above, I have had a case of acute inflammation of the testicle, in a married man, of about 35 years of age, of correct moral habits. The testicle and scrotum were considerably enlarged and inflamed, and the former painful. There was no

apparent cause for it. I gave him saline purgatives, a local application of liq. plumb. sub-acet., and directed him to live on a light farinaceous and vegetable diet, and rest in the recumbent position. In one week, the inflammation had disappeared. I had a case, a few years ago, in a colored man, of enormous enlargement of both testes, from simple inflammation, without any syphilitic taint. When I first saw him, he had been sick about two weeks, and the scrotum was in a state of ulceration. The entire anterior portion of the scrotum sloughed off, completely exposing the testicles. He recovered after a tedious illness. In *sarcocele*, when either simple or scrofulous, and in *circocele* and *varicocele*, leeching the scrotum, or scarifying the veins, will often afford relief. In *hæmatocele*, if produced by rupture of the spermatic vein, and if the patient is young and not prostrated, venesection should be resorted to, and leeches applied, in case of inflammation of the scrotum after an operation.

Hysteritis may appear in the non-gravid womb, or as a sequel to parturition. In either case, venesection and local bleeding are necessary, but generally more promptly and freely in the latter than in the former case, on account of its greater activity and danger. The local bleeding may be accomplished by the application of leeches to the perineal, iliac, or sacral regions. BURNS, RAMSBOTHAM, MEIGS, and other good authorities recommend this treatment, and my own experience confirms it. In the earlier stages of *scirrhus*, or *cancer of the uterus*, "taking blood from the loins by cupping, or from the pubis or groins by leeches, is of service" to allay the throbbing, heat, or pain.

In *amenorrhœa*, if produced by vascular irritation of the uterus, accompanied with general plethora, pain in the back or head, and fever, venesection should be resorted to; and in *dysmenorrhœa*, the same conditions being present, leeching the pubis or perineum. In *leucorrhœa*, where there is a plethoric condition of system, venesection or leeching will be beneficial.

In diseases of the serous membranes terminating in *dropsy*, blood-letting is sometimes of great benefit; is, indeed, sufficient

of itself, sometimes, to effect a cure. When caused by suppressed perspiration; from cold; or by the suppression of other secretions, as the menstrual; or by the vascular fulness attendant npon pregnancy; or from febrile, or local inflammatory affections; and attended by fever, or a full and tense pulse in persons of good constitution, and not too far advanced in age, venesection may be practised with benefit, with the view to diminishing the irritation of the secreting membranes; and, by relieving the fulness of the bloodvessels, promoting absorption of the effused fluid. If the blood exhibits the characteristic marks of inflammation, the bleeding may be repeated, but not frequently. The great majority of cases of dropsy do not require, and will not bear this remedy; but, when applicable, it sometimes acts with very prompt and beneficial influence. Where the serous membrane of any portion of the system is inflamed, topical depletion may be resorted to, cups being preferable to leeches. Where there is a torpid condition of the brain in general dropsy, cups to the temples or nucha may relieve temporarily. In hydrothorax, in its various forms, whether the effusion be in the parenchyma of the lungs, the pleuræ, or pericardium, cupping over the affected region will, sometimes, alleviate the symptoms; and in ascites, or in encysted ovarian dropsy, cups to the abdominal or pelvic regions will have a similar effect.

In *rheumatism*, if *acute*, bleeding may generally be practised with benefit. Persons affected with this form of the disease are, mostly, those in the vigor of life, of robust constitutions, and bear depletion well. The disease is almost always accompanied by fever of an active grade; and the pulse is full, frequent, and tense. One or two free bleedings, however, are all that is usually required; nor can we expect to permanently reduce the pulse by this means, without employing it to a dangerous extent. Too frequent bleedings have been supposed, in some cases, to cause metastasis to internal organs, especially to the heart, thus producing dangerous, sometimes fatal results. If this translation should take place in the course of the disease, not from the effects of bleeding, then venesection should

be used as far as the system will bear it, followed, if the heart is involved, by cups between the shoulders, or to the left thoracic region; if the brain, by leeches to the temples, nucha, or scalp. In sub-acute, or chronic rheumatism, bleeding is seldom requisite.

Dr. FULLER, (of London,) in his work on "Rheumatism," by his extreme caution, almost ignores blood-letting in this disease; though, in cases occurring in the young and robust, and for the first time, he admits that one small bleeding may be useful. Even in rheumatic endo-carditis, or peri-carditis, or where the brain, lungs, or pleuræ are affected, he is not much more favorable to it, although he admits that local bleeding, especially leeching, may sometimes have a beneficial effect. In opposing the practice of BOUILLAUD, that of large and frequently repeated bleedings, he errs on the other hand, though not to so great an extreme. In this assertion, I think the experience of those who have had to treat acute rheumatism frequently, will support me, as my own certainly does.

Bleeding has no direct influence in the cure of *gout*, and should only be resorted to when the disease attacks some vital organ, as the heart, stomach, lungs, etc., when prompt and efficient venesection is sometimes required to save life. Nor must we be always guided by the state of the pulse, for though when full and strong there can be little doubt of its propriety, yet, sometimes, the depression is so great that the pulse becomes feeble and contracted, and the strength reduced. In the latter event, the flow of blood will sometimes be accompanied by an increased volume and firmness of the pulse, and the urgent symptoms be alleviated. After general bleeding, if the symptoms are not conquered, topical depletion over the affected organ may be used with benefit.

In the treatment of *idiopathic* fevers, blood-letting is of great benefit, sometimes indispensable. Under this head, I shall only consider those fevers that are unaccompanied by eruptions, leaving the latter to be treated of under another caption. There is a fever which I have sometimes witnessed, brief, often ephemeral, in duration; occurring most frequently in children;

easily relieved, and rapidly convalescing. It is the same, probably, as that described by Dr. WOOD, under the name of *irritative fever*. If in an adult, and the fever should be very high, with a full, strong pulse, severe headache, and tendency to cerebral congestion, one full bleeding from the arm may be requisite, but is not often necessary. I have had a case, within the last two weeks, in a young man, where there was a full and frequent pulse, hot skin, and flushed face, but with little headache. An active saline cathartic, followed by a cooling diaphoretic, which produced free perspiration, relieved him, and in 48 hours he was convalescent. In children, where convulsions are induced, and a similar condition of system pertains, leeches to the temples may be proper; but many of those cases of convulsions are occasioned by nervous disturbance alone, and then this remedy is not indicated.

In *miasmatic fevers*, direct depletion is not very frequently required. The indications for its use are, when the system is in a sthenic condition; the pulse full and tense, in the hot stage; and there is danger of inflammation of some internal organ, as the brain, stomach, liver, or lungs; or where the vomiting is incessant, and cannot be otherwise controlled. In the cold stage, when apoplectic symptoms occur, it may also be necessary. These remarks apply to each variety, the intermittent, the remittent, or congestive types, but more especially to the remittent. "Topical bleeding is of very great service, and of very general application. There are but few cases probably in which it may not be beneficially applied." [BARTLETT'S "Fevers of the U.S." The author's views in relation to bleeding in fevers, sustain the position taken in this article.] Where there is a tendency to inflammation of any of the vital organs, leeches or cups should be applied in the vicinity of such organ.

Yellow fever is a disease of such rare occurrence in this latitude, that a knowledge of its treatment is not of such importance as that of fevers of a milder type; yet, it may occur to others, as it has to myself in a solitary instance. In that case, I was embarrassed in my diagnosis, until I had the assistance of an old physician of Philadelphia, who was familiar with yellow

fever, and who pronounced it to be that affection. This being my limited experience, I prefer to give that of others in regard to its treatment. Prof. WOOD says:—"The question must be decided at an early period, whether it will be requisite to use the lancet." "It is generally considered a hazardous remedy, after the lapse of one or two days. Bleeding will not *cure* the disease, nor should it be used vaguely, with this view. The only legitimate indication for it is to diminish the danger of disorganization from the violence of inflammatory excitement. If carried too far, it may do immense harm, by increasing the prostration of the second stage. It should be resorted to only when the pulse is tense and full. When this is very frequent, or readily compressible, the lancet should not be employed." "In the great majority of cases, it will not be necessary to bleed at all." In the case under my care, bleeding was not resorted to. When the yellow fever prevailed in Philadelphia, in 1794, the most eminent physicians there, Drs. RUSH, PHYSIC, DEWEES, and others, bled freely. In the years 1828, '29, and '30, experiments were made on some of our national vessels in the West Indies and Gulf of Mexico, to test the comparative merits of the antiphlogistic and mercurial treatments, and the result was greatly in favor of the former, in which venesection was almost invariably practised. Yet, the opinion of eminent physicians of the present day, who have had much experience in the disease, is adverse to bleeding, except in certain cases, (as before specified,) and to a moderate extent.

Although in *typhoid fever*, I have never, to the best of my recollection, resorted to bleeding, and have had few fatal cases in a moderately large number of patients, yet I have no doubt that in a few cases the cure would be accelerated by general, and in more by local depletion. If, in the early stage of this disease, there is a full, strong pulse, and a determination of blood to any of the vital organs, one or two moderate bleedings from the arm might be resorted to with probable advantage, with the view to the prevention of local inflammation. This should be used with great caution, however, as the disease is generally very protracted, and the debility, ultimately, very

great. If inflammation, or active congestion of any of the vital organs should occur in the course of the disease, cups or leeches applied to the vicinity will often have a beneficial effect. Some of the French physicians, as BOUILLAUD, CHOMEL, and LOUIS, and, also, but to a less extent, some in New England, recommend depletion, while others, probably a large majority, reject it altogether. With Professor BARTLETT, I think that, "for the present, our management of the disease must be eclectic and rational, not exclusive and specific."

As in yellow, so in *typhus fever*, I cannot speak from much experience. It is a disease rarely prevailing in the localities where I have formerly practised. In regard to direct depletion in this affection, there has been a diversity of opinion, but it is now generally regarded as but seldom necessary. Where there is severe headache in the stage of reaction, or a danger of local congestion, and the pulse is strong, the abstraction of a few ounces of blood by venesection will, generally, relieve the former symptom, and tend to obviate congestion. When there is congestion of the brain, or other vital organ, the application of cups or leeches will often be beneficial.

Eruptive diseases.—Under this head, I shall treat of diseases of the skin, and also some of the *eruptive fevers*, as variola, rubeola, scarlatina, and erysipelas.

In *variola*, I have never bled, nor have I ever regretted doing so, except in one instance, which terminated fatally in a few hours from my first visit. The patient, in this case, was a plethoric woman, about 40 years of age, and a stranger to me. I found her slightly delirious, with a flushed countenance, contracted pupils, and a full and frequent pulse. She had some headache, and severe pains in the lumbar region. She attributed her sufferings to the non-appearance of her catamenia, and as there was no small-pox prevailing in the neighborhood, and no eruption visible, I did not suspect that disease. I prescribed for her (about 1 o'clock P.M.) and requested to be informed of her condition in a few hours. At 5 o'clock P.M., I received a message that she was much relieved, and had taken a little nourishment; but at 8 o'clock P.M., I was hurriedly

summoned to her bedside, and found her in a dying condition. She lived about half-an-hour after my arrival. I then perceived on her face a papulous eruption, not very thick, however; and after death a few spots on the neck and chest. As many of the neighbors were crowding into the room, I considered it my duty to let them know that I thought the disease was small-pox. This offended the husband, who doubted her having the disease, and I requested that her former physician (a gentleman of large experience and reputation) might see the body with me. We met the next night, and, on examination, found her covered from the head to the feet with the variolous eruption, which had commenced to appear before life was extinct, and continued to increase up to the hour of our examination. Like myself, he had no hesitation in pronouncing it confluent small-pox of the most virulent kind. I afterwards found that the patient had spent a portion of a day, about ten days previously, in an infected part of Camden, N.J. In this case, venesection would, probably, have temporarily relieved the congested condition of the brain, have eliminated the eruption, and might have prolonged life; but the result would have ultimately, no doubt, have been the same. This is the only adult case I have ever lost by small-pox, and only two children, in a pretty large experience with the disease, and, therefore, that *experience* supports me in the opinion that it is very seldom necessary. Professor WOOD says, that "bleeding should never be used in the hope of eradicating the fever, or diminishing the amount of the eruption. It has been well ascertained to have neither of these effects, at least with the slightest approach to certainty." "Sometimes, when the eruption seems to be kept back by powerful internal irritation," (as in the case related above,) "bleeding has the effect of hastening it." "I repeat, the bleeding should be employed only to avert threatened danger from some internal organ. If there should be evidences of inflammatory congestion of the brain, lungs, stomach, or other important organ, accompanied by a full and strong pulse, he recommends moderate venesection, followed by leeches or cups near the affected organ. According to my own obser-

vation, this condition of the vital organs does not often occur to such an extent as to require bleeding. GREGORY, in his lectures on eruptive fevers, delivered in St. Thomas' Hospital, London, says:—"If the pulse be sharp, or very full, if the headache be severe, with accompanying epistaxis, blood-letting is not only useful, but *absolutely indispensable;* for the eruptive process is often impeded by the quantity of blood in the body, and the violence of the arterial excitement." "Your object is to unload the lungs, the liver, or the brain." It may be that, in hospital practice, and in our more plethoric transatlantic brethren, this condition of the system more generally obtains; but in private practice in this country, bleeding, according to my observation, is but seldom required.

In *Rubeola*, bleeding, for the disease itself, I believe, is never necessary. Some of its complications, or sequelæ, as pneumonia, laryngitis, bronchitis, etc., may require topical, possibly general, bleeding. A well-managed and well-nursed case of measles is, however, seldom followed by these diseases. Convulsions sometimes occur in children, when, if from a congested condition of the brain, especially in the early stages, leeches should be applied to the temples.

In regard to *scarlatina*, Dr. GREGORY remarks:—"I wish to impress on you, strongly, that scarlet fever not only admits of blood-letting, but often imperatively requires it, and that on general bleeding alone the safety of the patient often depends." He then gives a case approaching coma, another where there was great gastric irritation and vomiting, etc., and says:—"While I thus advocate the necessity of blood-letting in some cases, I freely acknowledge that it is inapplicable in others." Different epidemics, also, are affected differently by it, some bearing it well, others not at all. Professor WOOD says, that "it should be used with much caution and reserve, and only when there is an obvious indication; as when symptoms of inflammation of one of the vital organs exist and threaten great danger." I can say with Dr. WOOD, that "I have seldom found it advisable to bleed in any case; and do not remember the instance in which it appeared to me that I had occasion to repent my

abstinence." I believe that it is the generally acknowledged practice of American physicians to abstain from general bleeding in scarlatina, as a rule. Where convulsions occur from cerebral congestion, or where the inflammation of the throat is severe, and not of a low or asthenic grade, leeches to the temples or throat will often afford much relief. It should be remembered that leech bites bleed very freely in scarlet fever, owing to the excited state of the cutaneous circulation, and the number used should not be great. When pseudo-membranous laryngitis accompanies, or supervenes upon, scarlatina, leeches may also be applied to the throat, though not with much prospect of success. In some of the other sequelæ, as pneumonia, otitis, or other inflammations, leeching is indicated.

Erysipelas.—The remarks made respecting depletion, in the three preceding diseases, will apply, generally, to erysipelas. It is only where, with inflammation or active congestion, some vital organ is dangerously affected, that leeching is indicated. In the only fatal cases of erysipelas that I have seen, death has been caused by a translation of the disease to the brain, and where there is a danger of this occurring, local, in some cases general, bleeding is required. Since my residence in Chicago, I had a severe case of erysipelas, in a young woman of good constitution, in which, on the third day of the eruption, violent cephalalgia, with great restlessness, occurred, which did not yield to the remedies administered, and which I feared might terminate in the translation of the disease to the brain. At a subsequent visit, the headache having increased, and the pulse being full and firm, I opened a vein in the arm and took 12 or 14 ounces of blood, with great, and speedy, and permanent relief. The patient recovered well, under the use of ferruginous tonics. But, except in these complications, I do not consider blood-letting necessary or advisable generally, though in the young or middle-aged, if the constitution is robust, the pulse full and hard, and the inflammation severe, bleeding will probably abbreviate its duration. On this subject there has been much diversity of opinion, probably owing to the different views of the nature of the disease. Those who regard it as

only an inflammatory disease, would probably advocate blood-letting; those, again, who view it as a disease of debility, will resort to tonics and stimulants; while those who believe it is chiefly owing to a deranged condition of the digestive organs, especially the liver, will resort to measures calculated to relieve this condition. In different localities, the disease may assume one of these conditions to a greater extent than the others, and the treatment should be modified accordingly. As it has appeared to me, I have generally thought it comprised the three conditions combined, *viz:*—hepatic and gastric derangement; and inflammation, with a tendency to an asthenic state of the system. If this view is correct, bleeding would generally be unnecessary and injurious.

I have a few words to say in regard to blood-letting in *diseases of the skin*, and then these articles, which have been more numerous and more extended than I at first designed, will be brought to a close. In private practice, (at least, such has been the case with me,) there is not a large field for experience in diseases of the skin. As a general rule, I have seldom resorted to blood-letting, especially venesection, in this class of diseases. My chief authority for the following observations, is the work, on diseases of the skin, of Dr. NELLIGAN, of Dublin.

In *urticaria*, sometimes, the febrile symptoms are very active, in which case GREGORY, as well as NELLIGAN, advises venesection. The former particularly, "strongly counsels" it. WOOD advises it, "if the disease is obstinate and the patient plethoric."

In *eczema rubrum*, if the patient is of full habit of body, and there is much fever and pain, venesection may be required in some cases, in the early stages of the disease; but more frequently the topical abstraction of blood, by leeches, from the vicinity of the affected parts is sufficient, and is attended with much benefit.

Herpes rarely requires depletion. In the phlyctenoid and zoster varieties, where the fever is active, and occurring in young persons of full habit, venesection, or the application of leeches over the affected part, may be of use. These measures

should not be resorted to, until the eruption appears. Neither GREGORY or WOOD advise depletion.

In *pemphigus*, this remedy is rarely required; but should the accompanying fever "continue after the bullæ are fully developed, or inflammatory symptoms then appear, a small abstraction of blood from the arm may be requisite." [NELLIGAN.] WOOD recommends, "in the severe forms, where the pulse is strong and the constitution vigorous," to take blood from the arm, and by leeches "near the severest inflammation."

Acne simplex, generally requires very little treatment; but when it becomes obstinate, and "returns in a very active form every spring, a general bleeding, in strong, young persons, sometimes prevents its outbreak." WOOD recommends the same treatment, with the addition of leeches near the affected part, where the inflammation is severe and the patient vigorous, or plethoric.

Impetigo, occurring in young persons of robust constitution, sometimes requires local, even, in some cases, general bleeding. [NELLIGAN, WOOD.]

In *lichen agrius*, unless in "strong, healthy young persons, residing in the country," general bleeding is not required, "the local abstraction of blood, by means of leeches applied in the neighborhood of the eruption, being, in most cases, sufficient. Even in the chronic stages of the disease, this form of local bleeding is, in general, attended with the best results, as it relieves the congested state of the capillary circulation which is present." [NELLIGAN, with whom WOOD agrees.] In the other forms of lichen, depletion is not required.

In *psoriasis*, "in strong, healthy, plethoric young persons, when the eruption is of the guttated form, or affects only a small portion of the skin," venesection may precede other remedies. In some cases, the bleeding may be repeated, but not largely. [NELLIGAN, WOOD.]

In *pityriasis*, when there is considerable cutaneous inflammation, and the patient is vigorous, it may sometimes be proper to take blood from the arm; though this measure is not often required.

REPORT OF THE COMMITTEE ON PRACTICAL MEDICINE AND EPIDEMICS.

By H. NOBLE, M.D., of Heyworth, Ill., Chairman.

Read to the Illinois State Medical Society, June, 1866.

Mr. President, and Gentlemen of the Illinois State Medical Society:—

In presenting a report on Practical Medicine for the current year, I shall endeavor to give chiefly personal observations of the nature and character of diseases which have been prevalent in the sections of the State which I have, myself, been able to inspect.

The early part of the past year presented no features of particular interest. The general health was about as good as common; and there was not, to my knowledge, any epidemic of importance prevailing in the State.

In the latter part of summer, autumnal fever prevailed to considerable extent in our State, and, indeed, through the whole North-west. Bilious remittent, and intermittent fevers were common in almost every neighborhood in Illinois, but few families escaping a visit from the unwelcome disease. The type was mild, almost all cases being manageable, and yielding readily to treatment. The number of fatal cases was very small, in proportion to the number attacked. In treating this disease, I have, for many years, changed my practice of giving small doses of quinine frequently repeated, to large doses at longer intervals, say from 5 to 8 grains night and morning. I think less medicine arrests the disease when given in this way, and that there is less danger of its recurrence.

Other diseases have visited our State within the last year, some of which might be classed as epidemics; but none of them prevailed over any considerable portion of the State at any one time. Perhaps the two diseases which have attracted, most directly, the physician's attention, are cerebro-spinal meningitis and erysipelas. These diseases have been present in various localities during the past year.

The fatality attending cerebro-spinal meningitis is truly appalling. But few of the well-marked cases which have come under my observation have recovered. Dr. MCVEY reported several cases of this disease at the meeting of this Society, held in Chicago, in 1864. In the summer of 1864, 8 or 9 cases occurred in DeWitt County, in this State. In 1865, the disease appeared in the prairie south of Long Point timber, in DeWitt County. There were, also, several cases in McLean County. I saw some of the first cases which occurred in DeWitt County, and I have watched the disease closely as it was possible for me to observe it. The following symptoms are generally present:—The invasion of the disease is commonly sudden, commencing with a chill, attended with severe pain in the head and back; the eyes are dull and suffused; the pulse generally frequent and feeble; the limbs ache, and the muscles are commonly sore to the touch. As the disease progresses, the pain in the head increases and concentrates at the base of the occiput; the muscles of the back of the neck become irritated and contract permanently, and, in some cases, the muscles of the back become implicated sufficiently to produce opisthotonos. The fever is not, generally, of a violent grade, but is persistent, not leaving the patient entirely, at any time. In many cases, the nervous symptoms predominate, though seldom of an active character, the patient being dull and not disposed to talk, answering questions slowly and briefly, sometimes requring a peremptory tone to secure the attention of the patient. The disease is frequently attended with rigors, which seem to be caused by morbid nervous action. Some parts of the skin of the patient is frequently "spotted," from the size of a pin-head to the size of a thumb-nail, caused, I believe, by infiltration of tissue under the cuticle. From this circumstance, I suppose, the disease derives its popular name of "spotted fever." The bowels are, commonly, regular, and the discharges appear healthy to the last stages of the disease, when not disturbed by the improper use of cathartics. The disease is generally rapid in its progress, producing, if not arrested or modified by treatment, irreparable mischief in two or three days,

sometimes in much less time, as I have known death to occur in sixteen hours from the attack. The disease has chiefly attacked children and young persons, a large majority of the patients being under 12 years of age. It does not appear to be contagious, not having, under my observation, attacked more than two members of any family.

Of the treatment of this disease, I desire to say, that I consider blisters to the back of the neck, reaching up to the base of the brain, as close as possible, to be of the highest importance. Indeed, I have seen no remedy used which had any influence in checking the disease before vesication of the back of the neck was produced. In every case that I have seen, the head was drawn back and remained so until the disease yielded to treatment, or death closed the scene. This rigidity of the neck was relieved, temporarily, by blistering from the base of the brain six or eight inches down the spine. As the blister ceased to discharge, and healed, the unfavorable symptom usually returned, and would be again relieved by blistering another section of the spine immediately below the first blistered surface. Some of my patients recovered, after being blistered six or eight times. I have seen no patient recover without blistering several times. I consider blisters indispensable in the treatment of this disease, no case under my observation having recovered without them; and although many patients died that were blistered, I must say that the blisters, in every case, relieved, to some extent, the urgency of the symptoms. I would recommend, in every case of this terrible disease, a blister on the back of the neck, and reaching down between the shoulders, as the first treatment to be applied, believing it to be more efficacious than any or *all* other remedies. Opium, in large doses, and repeated frequently enough to relieve the patient of pain, is absolutely necessary. The nervous system suffers very much, and should be, as nearly as possible, relieved with opiates in some form or other. During the continuance of the disease, and in all its stages, the patient should be kept as free from pain as possible, which can be best done by the use of some preparation of opium.

Several of the cases which I saw were attacked, in the progress of the disease, with rigors, sometimes at regular intervals, but oftener without marked periodicity. These paroxysms very much resembled the chills of intermittent fever, but were not followed by the severe fever, and, at its cessation, the sweating stage. I attempted to arrest them with quinine, but did not succeed; indeed, the quinine seemed to aggravate the paroxysms and make the patient worse. In consultation with my friend Dr. MCFARLAND, of Heyworth, and at his suggestion, I gave strychnia, $\frac{1}{16}$ of a grain, every four hours, and succeeded in arresting the chill completely, and my patient improved satisfactorily to convalescence. This remedy arrested the chill in every case in which I tried it, and that was a large proportion of all the cases I treated. I think nine out of ten of my cases had those nervous rigors in some stage of the disease. The duration of the disease varies from less than twenty-four hours, to two or three months, some patients getting well in eight or ten days, while others get well in six or eight weeks. Some patients die in less than twenty-four hours' sickness, others live three months and then die.

From this, it appears that the disease is sometimes attended with great violence, and at other times, or in other cases, it is slow in its progress, destroying life by a total exhaustion of the vital forces. In the outline of treatment which I have given, I have attempted to bring to the notice of the profession, the remedies which appear to be efficacious in the treatment of this disease. The minutia of detail every physician can supply for each case as it is presented to him. I have not seen enough of this disease to form a decided and fixed opinion of its nature or treatment, but I am happy to say that contact with it has lessened its terrors somewhat, and the experience of the last two years leads me to hope that cerebro-spinal meningitis will, in a short time, be comprehended and understood by the scientific physician, and yield as readily to appropriate remedies as other diseases of equal violence do, when properly treated.

There are, perhaps, but few diseases which are more fatal and give a higher per cent of mortality than the one under con-

sideration, and there is, certainly, none in which the physician has had less cause to be satisfied with the results of treatment. But that the close scrutiny and observation of the medical profession will place it in the list of manageable diseases, I have no doubt.

Erysipelas has visited some portions of our State in an epidemic form, and in some places it appeared in a severe or malignant character. Facial erysipelas, complicated with diphtheria, was sometimes very fatal, in some instances causing death in a few hours. I noticed many cases, in which the two diseases were present at the same time, thus increasing the danger of the patient. Erysipelas, in epidemic form, has frequently visited our State, and is always attended with a high per cent of mortality. Central Illinois was visited with epidemic erysipelas about thirty years ago, which was very fatal, carrying off many victims. I noticed in that epidemic, that not one pregnant woman attacked by the disease recovered, although there was under my observation at that time many such cases. My attention was specially drawn to this fact during that epidemic, and I have been a close observer of cases of that character ever since, and I must say that I have never seen a pregnant woman attacked with epidemic erysipelas on the face that got well. I do not say that such cases are necessarily fatal, but that I have not had the good fortune to witness their recovery.

A peculiarity of erysipelas, which should always be borne in mind by the physician, is the possibility of communicating to the parturient female the virus which produces puerperal peritonitis. There is some diversity of opinion among physicians about the danger of waiting upon parturient patients, while attending on cases of erysipelas, and every physician has an undoubted right to enjoy his opinion, as to whether there be danger or not; but no physician has a right to hazard the life, or I might say sacrifice the life, of a lady, by doing what so large a portion of the medical profession believe to be dangerous and unjustifiable. Men have, individually, the right to enjoy their theories when no party is interested but themselves; but in a conflict of the-

ories, no man has a right to *act* on a theory which, if wrong, he knows must necessarily produce the death of his patient. I speak of the disease as being fatal, because I have never known a case of puerperal peritonitis to recover, which I had good reason to believe had been produced by the virus of erysipelas.

The treatment which I have found most successful, is tonic or strengthening. In many cases, quinine is needed; and in all, the muriated tincture of iron is useful. Indeed, I may say that the tincture of iron is the main remedy, and I think it is growing in favor every year. I have treated no case of erysipelas without it for many years. The nourishment should be generous. The system needs support, and should be nourished by good digestible food.

Small-pox has prevailed to an unusual extent the past year. The facilities for its transmission afforded by our soldiers have been very great, and the disease has lost no opportunity of displaying itself. But few parts of the country have been exempt from its visits; and, although the number of cases has been very large, the per cent of mortality has been small. This disease had never prevailed to any great extent in the rural districts until within the past few years, consequently, the people knew little or nothing of the nature and character of the disease, and but few physicians in the country had had opportunities of studying it at the bedside, notwithstanding which, it has been, as far as I have seen, well treated.

I have seen a few cases which had been treated with sudorifics and stimulants, which proved fatal, but I am happy to say that I have known no educated physician to resort to that mode of treatment. The great majority of cases of this disease were modified by having been preceded by vaccinia, in which cases variola is disarmed of almost all its terrors.

Vaccination has been pretty generally practised throughout our State, and to that we are indebted for our comparative immunity from this loathsome disease. Notwithstanding the protection of vaccination is apparent to all, it is evident the people but imperfectly understand the value of the remedy, otherwise they would *all* avail themselves of its protection.

Instead of this being the case, we find in almost every community a few persons of mature age who have never been vaccinated at all, and others who have been once or twice vaccinated unsuccessfully and gave it up, supposing it would never take, because it had not on the two or three trials made. Such persons should be instructed to continue to vaccinate until it *does* take, the protection secured being ample compensation for the perseverance necessary to secure it. The degree of protection is not always properly presented to the people by the physician. Absolute and perfect protection from small-pox and varioloid is not promised by all physicians, and a feeling of insecurity and distrust is the consequence. I believe it is the duty of every physician to state explicitly to the people, that vaccination, properly performed, and repeated until the susceptibility to the disease in the system is entirely destroyed, which can only be known by revaccination producing no effect, is a perfect and unfailing protection from small-pox and its modifications. The testimony of the whole profession to that effect would remove the distrust of the public mind and make the people more anxious to avail themselves of a remedy so well adapted to their wants. Nor do I believe there is any exaggeration or overcoloring of this statement of the efficiency of the protection afforded by vaccination. Nor have I any doubts of its permanency.

The theory that teaches that the protection must be renewed occasionally, or at any specific period, is, I think, fallacious. Your reporter has been protected perfectly for over fifty years by one vaccination. Revaccination has been performed four or five times, but had no effect. I knew a family of nine children have small-pox at one time. The father and mother and mother's sister had each had vaccine disease thirty years before, and had never been revaccinated. The mother and her sister nursed the nine cases of small-pox and were not in the least affected by it. The father had varioloid in a mild form, not more than a dozen pustules showing, which dried without lymph or matter, and he had no secondary fever. I have, on five different occasions, treated small-pox in families where there were children unprotected by vaccinia, which I vaccinated from

the second to the fourth day after the small-pox pustules broke out, and succeeded in every case (eleven in all) in protecting, perfectly, the children from small-pox and varioloid both, the vaccine disease not being modified or influenced by the small-pox at all, so far as I could perceive. Other gentlemen may have cases illustrating more clearly the extent of the protection afforded by vaccinia, and I hope they will give the result of their observations to the profession, for I know there is much yet to be done in the way of diffusing useful information among the people on this subject. I hope every physician recognizes the fact that it is as much his duty to prevent disease when it is possible to do so as to cure it; and I know of no disease that can be so perfectly barred from the human system as variola.

The winter, just passed, has been of remarkably uniform temperature in Central Illinois, and to that fact, I think, we may attribute our comparative exemption from pneumonia, which disease has prevailed to a limited extent only. The few cases which I saw during the winter were mild, yielding to treatment readily. But as spring advanced and the warm season approached, pneumonia of a more grave form made its appearance in different parts of the State, many of the cases terminating fatally. Since the middle of March, the most of the cases of pneumonia which I have seen required tonics early in the disease, and but few of them recovered without the exhibition of tonics or anti-periodics.

Diphtheria has not, in my observation, prevailed epidemically, though sporadic cases are not infrequent. It has generally, when not complicated with erysipelas, yielded readily to treatment. I have succeeded best with a tonic constitutional treatment, and a wash to the inflamed throat of solution of sulphate of copper, 40 grains to the ounce, applied once or twice, not more.

During the past year, I have not heard of any portion of the State being visited with epidemic dysentery. I have seen but few cases the past year, were of mild type and yielded readily to treatment.

Measles has not, to my knowledge, prevailed to any great

extent, the cases which I have seen being mild and resulting favorably.

Scarlatina has visited the central portion of the State, though not, so far as I have learned, of a severe or grave form. The most of the cases which I saw were mild, running their course without complication, and leaving no unpleasant sequela.

Typhoid fever has not prevailed in Central Illinois the past season to as great an extent as it has in some previous years. I have seen some cases of mild character, which recovered satisfactorily. For a period of nineteen years, this disease has been carefully observed in McLean and adjoining counties, and during all that time the south-east part of McLean County has produced many more cases of typhoid fever than the south-west part of the same county. I am not well enough acquainted with the geological formation of the two localities to state if there be any perceptible difference, but I am positive of the fact that while one locality has been camparatively free from the disease during the period named, the other has suffered more or less every year, and many years severely. Similar differences in other contiguous localities are, I believe, not unfrequent. Typhoid fever is always a serious disease, generally taxing the resources of the physician and the vitality of the patient, each to their utmost capacity.

The treatment of this disease recommended by different members of the profession, at different times, has varied considerably. "Slight ptyalism," early in the disease, has been recommended by some; quinine, in large doses, is the favorite remedy with others; while veratria has had its advocates, zealously urging its claims to the attention of the profession. Other remedies and modes of treatment have been recommended, and each of them has been submitted to the scrutiny of the profession at the bedside, and perhaps none of them have fulfilled all that was hoped for by their advocates. Indeed, the treatment of a case of typhoid fever requires a *physician*, and not a remedy. A remedy or particular plan of treatment cannot be safely substituted for a physician, who should be always ready to modify or change the remedy or prescription to meet the

varying condition of the patient. When this is done properly, the disease will be scientifically treated. I congratulate the Society on the improvement of the profession of our State in the treatment of this disease. The treatment now generally adopted, is certainly more rational, more scientific, and more satisfactory than the treatment practised ten years ago.

Great interest is now felt by the medical profession on the subject of Asiatic cholera. The approaching visitation of that awful disease, judged by the history of former epidemics, may be expected to reach us in a short time. The rapidity of its progress, and the line of its approach, may each vary from its former visits; but that the general character of the epidemic will be much changed, or the violence of the disease materially modified, we can scarcely hope.

The causes which produce cholera, if at all, are but imperfectly understood. The combination of influences are so complicated that the closest observation has not satisfactorily classified them. That a peculiar condition of the atmosphere is necessary to the epidemic character of the disease I have no doubt. This is demonstrated by the rapid spread of the disease, and, in some instances, of its more rapid decline. This was illustrated in the rapid abatement of cholera in St. Louis, when the last epidemic of cholera visited that city, the particulars of which are, doubtless remembered by every gentleman present. Whatever this peculiar condition of the atmosphere may be, it is evident that it is beyond the control of science in our present state of knowledge. No quarantine or sanitary regulation has been effectually opposed to it, and we are compelled to meet this as we do all other diseases, with the best resources of the science of medicine.

The observation of former epidemics leads us to expect satisfactory results from the judicious treatment of the first stage of the disease, the diarrhœa generally yielding to the usual remedies; but when the case has progressed to vomiting, cramps, and collapse, but few recover. The treatment to be successful, should, in all cases, be applied early; and when the diarrhœa yields, everything that would be likely to reproduce it should

be carefully avoided. If we could get the people to know that, during an epidemic of cholera, what they consider an insignificant diarrhœa, is really the first stage of the terrible destroyer, and that at its first appearance, without a moment's delay, is the time they should apply to a physician, more than one-half of its victims would be saved to life and usefulness.

I, therefore, consider it to be the imperative duty of every physician to inform the people, when an epidemic of cholera is approaching, that they should live temperately. All excesses of eating or drinking should be carefully avoided. Their habits of life should be uniform and regular, that is, no excessive fatigue, followed by periods of relaxation, should be indulged. The diet should be nourishing and taken in moderation, and always at the regular periods. Cleanliness is indispensable. Everything producing an offensive odor should, if possible, be corrected. Free ventilation of all parts of the house should be secured. At the first appearance of diarrhœa, consult your physician. A few hours delay may change an apparently simple diarrhœa into a fatal case of cholera. Depend on no specifics or cholera doctors. No skill or science known to man can insure uniform success in cases of fully developed cholera. The only safety is in the proper treatment of the first or diarrhœa stage.

When the people understand and strictly follow these directions, cholera will be disarmed of the chief part of its terrors.

ON THE CELLULAR VITALITY OF THE TISSUES, AS AN EVIDENCE OF LIFE IN NEW-BORN INFANTS.

By B. H. CHENEY, M.D., of Joliet, Ill.

It sometimes occurs that contraction of various muscles is observed in cases of new-born infants, who would otherwise be considered as still-born, there being no other sign of life. In such cases, physiological evidence seems conclusively to

prove that such contractions are but the manifestation, on the application of due stimulus, of a property inherent, not only in the muscular fibre, but in all organized tissues. DALTON says: "Every organ in the body is endowed with the property of *irritability;* that is, the property of reacting in some peculiar manner, when subjected to the action of a direct stimulus."* Such stimuli may well be, in the case of a tender, new-born infant, the external air, water, or any medium or substance hitherto foreign to its life, but to which it is subjected on coming into the world.

In reference to this property of irritability as regards muscle, it is expressly stated by the same author, that if the heart of a warm-blooded animal be rapidly removed from the chest, and, *when its pulsations have ceased,* touched with the point of a steel needle, its contractions can be readily excited.† It will not be contended that any other life than that peculiar to organized structures, and inherent therein, is manifested thereby.‡ We find the same property, namely, that of acting in accordance with a particular function, respondent to due and direct stimulus, to exist also in the nerve-fibre, so long as its continuity remains unbroken, and there is still enough of its molecular (cellular) vitality left to render it organized. By molecular (cellular) vitality, is to be understood simply that life which exists in every organized structure, so long as nutrition is going on therein.§

It is necessary, however, to observe, in this connection, the distinction between *organized* and *organic.* "Each substance called into existence, (manifested,) in the life of an organism,

* Human Physiology, p. 370.

† Dalton, *opus citat.* p. 57, *et seq.*

‡ "By the irritability of tissues is simply meant a capability of receiving impressions from surrounding agents, and thus producing phenomena, and is only to be observed when these tissues are alive. It is the 'capability of being acted upon.' It, of course, belongs to everything that has life; to plants as well as animals; to the organic molecular cell, as truly as to the most perfect and complicated structure." [Hodge, Dis. of Women, p. 19.

§ "Every animal presents itself as a sum of vital unities." [Virchow, Cell. Path. p. 40.

which is not found in the inorganic world, is called organic; but it does not follow that it must necessarily be organized. That is, it may appear to the eye homologous, and be incapable of separation into dissimilar parts by the knife, or by other anatomical means.

"Everything organized, on the contrary, consists of several organic substances of certain form, each one of which possesses certain peculiarities, which influence each other according to certain laws, and show themselves by dissection, or by the microscope, to be different.

"Albumen, protein, serum of blood, etc., are organic, but not organized: they are called, therefore, organic substances without form. Nerve, muscle, gland-tissue, etc., are, on the other hand, organized, and, *eo ipso*, organic."*

Physiological life, then, or the molecular (cellular) vitality resident in every organized tissue in a state of nutrition, is common to all, and is, in the abstract, the same; its manifestation depends upon the function of the organ, and distinguishes muscle from nerve, nerve from gland-tissue.† Contraction is the manifestation of the function of muscle; sensation and the conduction of impressions, that of nerve; (these latter of course inappreciable to the observer, except in their results;) secretion, that of gland-tissue; etc.‡ Irritation, therefore, produces different and various phenomena, according to the organ or tissue upon which its influence is exerted.

* Joseph Hyrtl, Anatomie, etc.

† "If we speak of the life of the individual parts of a body, we must also know in what way life manifests itself, and whereby it is essentially characterized." [Virchow, Cellular Pathology, p. 23.

‡ It has been objected to the statement that muscle possesses the peculiar property of contractility, that no new idea is advanced thereby, as the contractility is simply the manifestation of irritation. [Hodge, *opus citat.* p. 21.] Granting the fact that contractility is but the manifestation of due stimulus, it is difficult to see why it is therefore any the less a property, and, as found in muscle, both a peculiar and vital property. A property may be either active or passive; the former is called a *faculty*, the latter a *capacity*. Irritability, (excitability,) a property possessed by all tissues, is purely passive in its nature; the varied manifestations resulting therefrom are active and peculiar, and are individual "properties," in the strict sense of the word.

Further, molecular vitality has, of course, its grades, as well as its characteristic distinctions. It is much less, for example, in cartilage than in muscle. But it nevertheless exists in all, and in the fluids of the body as well as in the solids. As molecular, or cellular, vitality is the basis of all activity in the muscular or nerve-fibre, so does it animate the blood-corpuscle in the discharge of its individual functions. What these functions are, we may not be able, in the present state of our knowledge, fully to say, as their performance does not appeal directly to our physical senses. But no one doubts that the blood-corpuscle possesses the faculty of performing such functions, and, at the same time, a capacity for irritation. And it is because we observe that chief and most constantly existing pathological condition, inflammation, to be invariably characterized by disturbance in the complemental relation between these scavengers of waste and purveyors of repair on the one hand, and the ultimate cell constituents of the tissues on the other, that we can most properly give to this condition the comprehensive definition, "a lesion of nutrition."

The amount and kind of irritation, therefore, necessary to call into play the functions of different organs, varies as much as the resultant phenomena. The prick of a steel needle, which may be sufficient to cause a muscle to contract, will, perhaps, be without perceptible effect upon a nerve. But a more powerful stimulus, such as electricity, will produce the corresponding manifestation of function in the latter. Whatever may be the necessary stimulus, whether mechanical, chemical, or electrical, the physiological fact of molecular (cellular) organic life, proven by them, remains the same.

It is much to be regretted that so great confusion of ideas should have prevailed in regard to the nervous system. No part of physiology is so chary of affording definite ideas regarding cause and effect; nowhere in the animal organism is the *post hoc* so liable to be confounded with the *propter hoc*. The physiology of the nervous system, lying, as it does, upon the confines of the physiologist's domain, has always stood in danger of being obscured by the mist of metaphysics, in regard to all symptoms usually considered indicative of life. The fault

here, we apprehend, lies not so much with physiology as with psychology; the cultivators of the latter science not sufficiently realizing the necessity of an acquaintance with the former, in order to proceed upon sound bases and from correct premises. The confusion is not to be wondered at, when one considers the limited nature of human knowledge, and the inadequacy of language to express that which is known. But it is not gremane to our present purpose to enter at all upon so broad a field of inquiry and research. All that it is necessary to bear in mind here, is the fact that the nerves, in common with all organs, have a physiological or organic life *per se;* and although they are, through the cerebrum as a grand source, most intimately connected with the functions of that mysterious essence which we call mind, yet are they physiologically in no way dependent thereon.

The reflex action of the nerves is dependent on this power resident in the spinal cord, and mental consciousness or perception is not at all essential to its performance.* Further, it is important to remember that the contractility of muscle is not dependent upon the integrity of the nerves. Other causes, entirely distinct from the stimulus of innervation, can operate directly in arousing the dormant force of muscle. This is implied in what is said above of molecular (cellular) organic vitality. It is conclusively proven by experiments with the woorara poison, an agent which, although it completely destroys the vitality of the nerves, leaves untouched the muscular fibre. So strong is this proof, that even when the nerves refuse to respond in the slightest degree to the most powerful chemical and electrical stimuli, the muscles have been found awake to the slightest mechanical irritation.†

* The term "sensitive," applied to the afferent nerves, is open to some objection, on the ground of inaccuracy and ambiguity. It is manifestly incorrect to say, that an animal has lost *sensation*, and yet that the *sensitive* nerves still retain their integrity. Physiologically, then, there are sensitive (afferent) nerves in the ganglionic system of organic life. But this is not the general acceptation of the term "sensitive." At the same time, the proper distinction between sensation and consciousness is too well understood to need more than an allusion.

† Vid. Virchow, Cellular Pathology, p. 333.

We find, then, that all organized tissues in a state of nutrition have a molecular (cellular) life, manifested by the performance of functions peculiar to each, on the application of due and direct stimulus. It seems more than probable, that the seat of this molecular vitality is in the characteristic cell of the tissue, and, hence, the term cellular has been used above, as synonymous with, and explanatory of, the sense in which molecular is here to be understood.*

The basis of organization in all tissues is, necessarily, nutrition. This exists, of course, as well in the fœtus prior to birth as thereafter. Hence, the distinction made by Dr. DENMAN† between uterine and extra-uterine life seems to be, in this regard, a useless one. For all purposes upon which the properties belonging to organized tissues depend, life, whether intra or extra-uterine, is one and the same.

The case of Fish, or Fisher, *vs.* Palmer, in Beck, Medical Jurisprudence, vol. i., p. 410, first prompted these remarks. Here, the question turning upon the life of an infant at the time of birth, it was decided in the affirmative, on the simple evidence of servants that there were manifested "convulsive movements and twitchings of the lips" on the child being put into a warm bath. That the muscular contraction alluded to is strong evidence, if not proof, of *recent* life, I would by no means dispute. But it is consistent to suppose a case, in which a child, living a short time previous to birth, has died just before, or during, delivery. In such a case, is it not strictly in accordance with the teachings of physiology to find that the organized structures, muscle particularly, should retain sufficient organic vitality, resulting from the nutrition already received and the elements of which remain, to manifest the property of irritability on the application of a stimulus? Nay, more, should we not expect to find this?

* Since writing this article, I have seen in the *Am. Journal of Med. Sci.* for April, 1866, p. 511, a notice of Balbiani's researches. These investigations, however indefinite they may at present be, probably contain the germ of a truth that will ere long be universally recognized.

† *Fish* v. *Palmer*, Beck. Med. Jurisp., vol. i., p. 411.

In the case of Fish, or Fisher, *vs.* Palmer, it would, therefore, seem that the evidence of the two servants went negatively to show that the child was born dead; as it is stated, that beyond the convulsive twitching and tremulous motion of its lips, "it never manifested any other sign of life." Granting that the child was alive just previous to its entrance into the world, it is reasonable, and in accordance with our knowledge upon the subject, to conclude that the "convulsive twitching and tremulous motion of its lips" might very naturally have been caused by the bath of water into which the child was placed.

The object of these remarks is to show the insufficiency of muscular contraction as a demonstrating evidence of the presence of life—life, that is, in the common acceptation of the term. It is, therefore, in the case alluded to, the absence of any other sign of life whatever, which leads to the opinion that it was still-born.

It is, of course, impossible, in the present state of our knowledge, and it may always be so, to draw a definite line of demarcation, showing where life, as manifested by the presence of an immortal essence, (mind or soul,) begins. It is manifestly incorrect to consider "conscious existence" as a proper definition of this life, for who can prove that the infant, on taking its first breath, is conscious of anything?* This act may not only be independent of consciousness, (that is automatic,) but it may be a purely physiological one in itself, caused by the stimulus of the air or water upon the periphery of afferent nerves. That is, it may be eccentric; whereas automatic phenomena are (usually) centric in their causation. The maintainance and continuance of respiration is, of course, dependent upon the presence of that essential force which constitutes life; but who shall say what are the sure characteristics thereof; its (so to speak) physiognomonic evidences.

* It might at first seem that sleep affords sufficient argument against conscious existence as definitive of life. But it is probable that in strictness, consciousness exists even in the most profound sleep, although the brain, as a physical organ, may not be in a condition to manifest that consciousness to our perception at the time, or to our memory afterwards.

A case in point is related in the *American Journal of Medical Sciences*, for April, 1866. A woman, who was suckling a child ten months old, aborted with a fœtus of "from 6½ to 7 inches in length, and, probably, of not more than five months' gestation." On removing the fœtus, the attending surgeon (Dr. J. D. MOORE) placed it partially enclosed on the membrane, and with the placenta still attached, in a vessel of water, the mother at that time requiring all his attention. "In about twenty minutes, I took it from the vessel, where it had been completely covered with fluid, in order to examine it, and, while taking its measurement, saw, distinctly, pulsation both in the thorax and fontanelles, and, after watching it for a few seconds, saw it open its mouth and make inspiratory movements, as if gasping for breath. The pulsation continued for some time, even after I had wrapped it in a napkin and carried it to my residence, (about five minutes' walk,) where it was also witnessed by several other medical men."

Can any one say what is the full import of these symptoms, and whether anything more than organic vitality can be predicated upon them? It is not purposed to follow out, here, this train of thought, which would necessarily lead to metaphysical abstractions of no practical value in the present stage of science. But, in a medico-legal point of view, it is important to have some definite and restricted definition of life, as distinguished from purely cellular vitality, which is simply a physiological condition. In cases like the one of Fish *vs.* Palmer, where there is necessarily room for much discussion, and in which, unless there be collateral evidence of a decisive nature, there must always remain doubt, it would be better to have some technical definition, which, however much it may be open to criticism, shall decide conclusively concerning it.

This is rendered all the more necessary, from the fact that there is no symptom at present known, which can be considered indubitable and conclusive proof of the presence of life. Numerous tests have been suggested and tried, but each one has been found open to more or less objection, the results being found, in certain cases, too fallacious to be reliable. The organs of

digestion, the bladder, the liver, and the lungs have been made the bases of such tests.

We may pass all the former by, as entirely unreliable, except as substantiating other and stronger proofs, and come to the last named, *viz.:*—those by the lungs. Of these there are several—DANIELS' based upon the absolute gravity of the lungs, and the various changes induced by respiration; PLOUQUET'S, which takes into account the relative weight of the lungs to thal of the whole body, and the alteration in that weight by the act of breathing, etc.; and others.

The hydrostatic test (by floating) is the one which has met with the most favor, and which is still relied upon to a great extent. But this, like all the others, is by no means infallible, and numerous arguments might be adduced against its sufficiency. It will be enough here to remark, (1.) That the symptoms afforded by the hydrostatic test may be artificially produced; as, for example, by inflating, by decomposition, etc. (2.) On the other hand, some children have lived many hours, and yet but very few vesicles were found developed in the lungs.

All the tests which have been alluded to, have their foundation in the assumption that a new-born infant cannot breathe until after it has left the uterus. But the recorded occurrences of the *vagitus uterinus* are sufficient to show that this assumption is not borne out by fact. Hence, even if we possessed a satisfactory and reliable test for the occurrence of respiration, the fact that this had taken place, would not be enough to establish proof of extra-uterine life. It is, of course, extra-uterine life which must be proven, as there are many circumstances which may occur during labor sufficient to destroy life. The legal bearing of these points is obvious; as, for example, in cases of suspected infanticide.

The law of France makes (one?) full and complete respiration its legal definition of life. We have already seen some of the difficulties which must attend an attempt at proving this to have taken place, in cases where doubt exists. In addition to what has been mentioned, there is the fact that many children do not breathe for some time after birth, and yet live. With

this fact every practitioner of obstetrics is, more or less, practically familiar.

The tendency of our common-law authorities, at present, is to require that an "independent circulation and existence" shall be proven, in order to constitute life.* The term "existence" implies nothing more than an abstract, passive condition; if independent, characterized by independent circulation and respiration, then the presence of active life may be considered as proven. From what has been said above, it will be seen that this definition is really the only admissible one, so far as our present knowledge goes.

Under this definition, and covered by it, come the relevant questions of "viability" and "adequate vitality." If a fœtus has not yet attained that age and growth (development) which is necessary for the continuance of its life out of the uterus, it has not the faculty of independent circulation and respiration. So, too, in cases where absence of the skull, or of the brain, (anencephali,) fissures of the spine, or similar want of development, would show absolute inability for the continuance of life. With these points we have nothing here to do, as they are subordinate to the question of the evidences of life as an independent existence.

Enough has been said to show the difficulty and uncertainty of this question. Its importance will not be gainsayed, although, fortunately, the cases in which the practitioner is called upon to decide such questions are comparatively infrequent. But none the less, therefore, is it incumbent on the medical man to study well the boundaries and distinctive features which may at any time have to decide important questions affecting humam happiness, property, and life.

The following points, then, with regard to this subject, may be considered as established:—

1. Every organ in the body is endowed with the property of irritability.

2. This property is resident in the organic molecular cell of

* Wharton, Criminal Law, §874, where a full list of authorities are referred to, and may be found specified. Cf. §§710 and 942.

the tissue. These cells may, therefore, be considered as so many vital units of organization.

3. The phenomena manifested by each organ, on the occurrence of an irritation, constitute its individual and distinguishing properties.

4. These properties of the tissues are, in themselves, considered independent (*a.*) of consciousness; (*b.*) of the *vis incita*, termed "life;" and (*c.*) of nervous integrity, except, of course, with regard to the nerve-tissue itself, as a distinct organ.

5. The sole requisite seems to be the presence of active organization—elements of nutrition not yet yielded up to chemical laws.

6. The occurrence of muscular contraction, or performance of other like functions, must, therefore, be considered as simply dependent upon the organic vitality resident in the cells of the tissue or organ; and the performance of such functions cannot be held as evidence of anything more than cellular vitality.

7. Hence, in the present state of our knowledge, nothing less than an independent circulation and respiration can be accepted as constituting "life," in the ordinary acceptation of the term. If these can be proven to have existed, even for an indefinitely short time, the question of life may be considered as decided in the affirmative.

Much more space than is here permitted, would be required to do justice to the above subject. In what has been said, the aim has not been to present things original or unknown to the profession, but to suggest further thought and inquiry upon a subject which is, perhaps, too apt to be neglected in the round of daily practice.

ABSCESS IN THE TESTICLE.

By M. M. EATON, M.D., of Peoria, Ill.

The extreme rarity of cases of this nature, causes me to place this one on record. Not that I have any new theories to offer, or treatment to suggest, but simply to aid in adding to the great storehouse of *medical* experience, by reporting such cases of interest as may be read by young members of the profession with profit. The history of this case is briefly as follows, *viz.*:—

A young man, aged 16 years, son of a merchant of this city, was placed under my care, June 4th, 1866. Found him complaining of great pain in the right iliac region, and on examination I discovered a tumor about the size of a large orange in this locality, very tender to the touch; and, on further investigation, I found the right testicle absent from the scrotum, and on inquiry, learned that the young man had, while a youth, about 6 years of age, passed this testicle up into the abdomen; that he had passed the left one up also, but it came down again; the right, however, still remaining in the abdomen, without causing any inconvenience whatever up to about a week since, at which time a physician was consulted, who prescribed for ague, as the patient had complained of a chill and had some fever, the doctor not being aware of any trouble in the abdomen or testicle, as the patient had carefully concealed the result of his foolishness in his early youth, so that even his parents were not aware of his condition. He grew rapidly worse, however, and on the 4th, I was requested to take charge of the case.

I found him with a wiry pulse, 110 to the minute; tongue with a white coat; skin dry; respiration 20 per minute. I applied fomentations of hops over the lower part of the abdomen; gave anodynes, diaphoretics, and diuretics, in connection with powders, every three hours, of hydrg. chlo. mit. gr. ij, opii pulv. gr. j. M.

June 5th. Seemed much improved. Pulse 100, and softer; skin moist; tenderness of abdomen less; suffering but little

pain. The bowels not having moved, I ordered pill comp. cathar. No. ij, every four hours.

June 6th. No movement of bowels; pulse more wiry; commenced vomiting. Ordered injections of warm water, and continued diaphoretic mixture, and gave pill opii, gr. ij, every four hours, with ipecac in solution, $\frac{1}{12}$ gr. doses, to arrest the emesis and control the severe pain.

June 7th. Patient worse. No operation from several enemata that had been used. Tenderness over the whole abdomen; emesis continually, consisting of some fœcal matter, with water; complains of great thirst—the water drank is immediately rejected. Applied sinapism over the epigastrium, and gave plumb. acet. in solution, to arrest the vomiting.

June 8th. Patient worse every way. Passed air from the bladder with the urine. Used stimulating enemata with no success.

June 9th. Patient died. I requested a *post mortem* examination, in order to ascertain what condition the testicle really was in. My request was granted, and 12 hours after death I made the autopsy, assisted by Drs. J. MURPHY and J. HAMILTON, also, Drs. HIATT and POTTS.

We found, on opening the abdomen, large quantities of pus diffused throughout the entire peritoneal cavity, and on examining the testicle, which was retained in the abdomen for so long a time, enlarged from inflammation to about ten times its normal size, containing a cavity nearly as large as itself, which was open one side, through which the pus found in the peritoneal cavity had evidently escaped. The bladder was in a healthy condition; the kidneys normal; the liver slightly enlarged; the spleen healthy; the peritoneum intensely congested and softened; the duodenum softened through its muscular coat, so that it was torn by very slight violence; extensive evidence of inflammation throughout the entire tract of the alimentary canal, but no obstruction existed. The testicle was not removed, which I regret, as it would have been an interesting pathological specimen.

The bladder was inflated after drawing off two ounces of

healthy urine, and found to be impervious. How shall we account for the gas which had been expelled through the urethra previous to death?

I am inclined to believe that, as the urine and bladder were in a normal condition, the gas must have formed in the inflamed testicle and passed through the spermatic duct into the urethra, and from thence expelled with the urine.

Another question may be asked:—Why did this retained testicle take on inflammatory action at this time, after having remained so long in its unnatural situation without producing any effect whatever on our patient?

I answer, that, in my opinion, the expulsion of the seminal fluid was prevented by the peculiar situation of the testicle, and that, in consequence, this fluid being retained in the testicle, it became an irritant, a foreign material causing the inflammatory action in the testicle and the resulting abscess, and the reason why this state of affairs had not long ago existed is found in that our patient had only recently arrived at the age of puberty, and, consequently, until recently, no seminal fluid had been secreted.

I do not wish to be understood as saying that where a testicle is retained in the abdomen until adult age, inflammation of the testicle is a certain result; for I know of a gentleman, at the present time in this city, the father of a fine, healthy family, who has one of his testicles retained at the internal abdominal ring, and it has never troubled him; but that, where, from any cause, the spermatic fluid is prevented from leaving the testicle, it must necessarily bring on inflammatory action.

This case may also be instructive, in that the symptoms during the last three days of our patient's life were such as are described where some obstruction exists in the course of the alimentary canal; so much so, that the case was diagnosed by a very eminent and experienced physician, who saw the case with me on the day he died, to be one of invagination of the intestine, or, certainly, one of obstruction from cause. But, as I have stated, nothing of the kind was found to exist, although very diligent search was instituted.

IRRIGATION OF THE NASAL PASSAGES.

By H. A. JOHNSON, M.D., Chicago.

The readers of the EXAMINER are, no doubt, aware that the nasal passages may be irrigated, by allowing a stream of water to run into one nostril, passing back behind the septum and issuing from the other nostril, the subject in the meantime breathing through the open mouth; and that by this means medicinal agents may be applied with ease to parts that are reached with difficulty by other devices.

TIEMAN, of New York, has manufactured an instrument especially for the purpose, but its cost is considerable, and for some months I have been supplying my patients with a very simple and cheap contrivance, meeting perfectly the objects in view. It consists of a gum elastic tube three feet in length, to one end of which is attached a hard rubber nozzle, such as is ordinarily supplied to the hard rubber syringe; to the other, a glass tube bent so as to hang over and down into a common water pitcher. This tube is used as a syphon. The pitcher, containing the solution to be used, is placed about two feet above the head of the patient, and, the tube having been first filled with water, the bent portion is placed in the solution, and, holding the other extremity between the thumb and finger so as to control the current, the nozzle is placed in one nostril, and, the pressure being removed, the solution passes through the nares and issues from the other nostril.

In chronic disease of the passages, and especially where they become filled with accumulations of dried mucus, I have obtained excellent results from this treatment.

Solutions of chlorate of potash, chloride of zinc, bromide of ammonium, etc., may be used and in large quantities.

The first effect is usually mechanical, the removal of the accumulated matters. When this is accomplished, the medicinal effect of remedies addressed to the vital properties of the tissues will be more certainly realized.

611 Wabash Avenue, Aug. 15, 1866.

Selections.

ON CHOLERA.

By A. CLARK, M.D., Professor of Pathology and Practical Medicine, College of Physicians and Surgeons, N.Y.

THE TREATMENT OF CHOLERA.

We may now inquire whether any treatment is curative in the several stages of cholera. It is generally believed that the diarrhœa of the first stage, if sufficiently prolonged to permit the application of medical precepts, is as easily cured as a diarrhœa of any other kind. This is not quite true. A diarrhœa in cholera seasons is more dangerous and less uniformly manageable than in ordinary seasons when cholera is not prevailing. At the same time, here is the great field of professional usefulness; this is the period of the disease when cures should be effected. Then what are you to do? First, send the patient to bed, and let him have the advantage of warmth and rest in the recumbent position. It is well to obtain a little diaphoresis —not profuse sweating, but a soft skin, or gentle perspiration, such as may be caused by a warm bath, or better, by a foot bath. The administration of cathartics is not generally thought proper; and this is especially true of the salines. Indeed all cathartics, while cholera is threatening, should be avoided as far as possible in those not attacked. Many an instance has come to my knowledge of cholera apparently precipitated by the administration of medicines of this class. Castor-oil is the least objectionable, and I can conceive may, under certain circumstances, be serviceable; for example, when a diarrhœa has been provoked by accumulated fæces in the intestines, or by errors of diet, or by the indigestable portions of certain fruits. In general, the first aim is to check the diarrhœa. Among the medicines that we use for this purpose, opium or an opiate almost always finds a place. A favorite prescription in past epidemics is the following:—"Tinct. opii, spt. camphor, tinct. capsici, tinct. catechu, tinct. caryoph., equal parts. Of this a teaspoonful more or less frequently according to the urgency of the symptoms.* Those who entertain the view that this

*Dr. Squibb, in "Advice upon Epidemic Cholera," lately published, gives the following formula, which he thinks more useful by the addition of chloroform. He proposes to call the preparation the "Compound Tincture of Opium" or

is a disease which replaces miasmatic fevers, advocate the use of quinine. Indeed, it is claimed that quinine alone will suppress the discharges. The astringent preparations of iron have some reputation, as the peritrate, or the persulphate, with or without quinine. A pill that Dr. Houston thinks as serviceable as any, is made up thus:—Acetate of lead and camphor, each twenty-four grains; acetate of morphia, two or three grains; oil of cinnamon, five drops; mucilage of gum arabic, sufficient. This is made into twelve pills, and one to be given every two, three, or four hours, according to the nature of the case. Another favorite prescription is what is called Hope's mixture. Its composition is as follows:—Nitric acid, one drachm; camphor mixture, eight ounces; these to be mixed, and afterwards the tincture of opium added to the amount of two scruples. One quarter of this makes a dose, to be repeated more or less frequently. If the diarrhœa begins after a surfeit, or there is reason to suppose there is undigested food in the stomach, a quick emetic is regarded as important. Alum, the aromatic confection, the compound spirits of ammonia, chalk mixture, hæmatoxylon, kino, and calomel in grain doses, are in the list of remedies for this stage; each, however, is given with opium or its tincture. But none of these medicines, regarded as astringents, are as highly valued by the English physicians as the acetate of lead. It is given with opium, one to eight grains of the acetate, and one-quarter of a grain to a grain of opium; in the small doses every hour. Some physicians claim success in the use of the pulvis cretæ compositus cum opio; others prefer hydrargyrum cum creta, and Dover's powder. These will, some of them probably, answer your purpose; but rest in bed is regarded as more important, perhaps than any special medication.

Passing to the serous diarrhœa—the symptom soon attended by cramps and vomiting—the question comes whether any particular remedy is specially serviceable. Dr. Fuller—the same, I believe, who has made a high reputation by his treatise on rheumatism—holds that sulphuric acid, first suggested by Mr. W. S. Cox, of Kensel Town, England, has almost sovereign power over this stage of the disease. His mode is to add to eleven ounces of water one ounce of dilute sulphuric acid, and to

"Diarrhœa Mixture." It is tincture of opium, spirits of camphor, and tincture of capsicum, each one fluid ounce; purified chloroform, three fluid drachms, and a sufficient quantity of stronger alcohol to make the whole measure five fluid ounces. He advises a teaspoonful as a dose, to be taken after each stool. If the diarrhœa increases he would double the dose. The mixture is suggested for popular use till a physician can be obtained.

give of this three tablespoons every half-hour; and he claims that it is infallible; but we hear of so many infallible remedies for cholera in its various stages that we have come to doubt infallibility, even in Dr. Fuller. With this, he sometimes combines in the alternate doses, half a drachm to a drachm of chloric ether. He occasionally commences the treatment by administering two grains of opium. He sometimes adds five grains of calomel in one dose. He also employs sinapisms to the stomach, and friction to the extremities. This treatment has the support of some good names in England. M. Worms, of Gros-Gaillou Hospital, uses sulphuric acid in sweetened water, one part to three or four or five hundred, as a drink, and attaches great importance to it. Dr. Hutchinson, however, in 1854, says:—"Sulphuric acid, so highly recommended by Dr. Fuller, was prescribed, but without any benefit."

Sulphur in substance has been proposed, and the suggestion comes from the idea entertained by some persons that the disease is caused by vegetable fungi. Dr. Grove takes of precipitated sulphur, one drachm; bicarbonate of soda, one drachm, compound spirits of lavender, six drachms, and of water two ounces, to make a mixture; of this he gives a tablespoonful every half or quarter of an hour. This is for him a most serviceable remedy. He says that it checks the serous discharges and restores warmth. He refers to the experience of some of the Scotch people, who treated themselves for what was supposed to be cholera with great success, using only brimstone and whiskey. He refers also to the *London Practice of Physic*, 1692, in which sulphur and the alcoholics are spoken of as the only means of curing a severe and fatal diarrhœa which prevailed in England about that time. The suggestion of Dr. Grove has the support of Dr. Cormack, and may be tried; but I fear it will share the fate of all cholera specifics.

Creasote, says Dr. Cormack, if the patient does not refuse to take it on account of its odor, hardly ever fails to arrest the serous discharges. Two or three drops given every hour or two, it is claimed, will constrict the vessels and stop the diarrhœa. This may be the language of hope, but it is not the language of science. That creasote may be serviceable is very possible; but to say it hardly ever fails, is but to bring discredit on him who says it.

In the treatment of the third stage of cholera, chloroform has gained considerable reputation. It was used by the late Professor Horner, of Philadelphia, in the cholera of 1849, and used with some success. Dr. Hartshorn, of Philadelphia, has

presented to the profession what he regards as a useful formula:

℞. Chloroform,---------- f ʒ ij.
Spt. Camph.,----------
Tinct. opii, āā,---------- f ʒ iss.
Ol. cinnamon,---------- gtt. viij.
Alcohol,---------- ʒ iii. M.

Professor Horner and Dr. Hartshorn gave chloroform in collapse, a few drops every few minutes, combined with camphor and laudanum, and the latter thinks its success extraordinary. Of Dr. Hartshorn's prescription five to thirty minims or more are to be given, with ice internally and warm applications externally. Dr. Davies (Dr. Gull's Report) had at one time very great confidence in chloroform in the stages of serous diarrhœa and in collapse, and gave it in doses of seven to ten drops every quarter or half-hour, claiming very great success; in nine cases of cholera and thirteen of the worst diarrhœa, only one death; in fourteen cases treated by Mr. Tower, under Dr. Davies' observation, only one death, and so on. In subsequent reports his trust in chloroform is gradually more and more shaken, till in his fourth and last he says he has lost confidence in it when used alone. On the whole, summing up all the reported experience which I have been able to find, it cannot be claimed that this medicine has any great curative power. It often allays the vomiting and cramps, and is worthy of further trial. Chloroform has been used by inhalation, and the effect of its use in that manner is to allay the cramps and suspend the vomiting, but unfortunately the patient must be kept continually in a state of slight anæsthesia, or these symptoms will return. Its administration does not seem to have materially diminished the mortality from cholera, though it has doubtless rendered the disease less painful, and may be worthy of use for that purpose.

Strychnine is very warmly advocated by Professor Fraser, of McGill College, Montreal, to be used in impending collapse, together with the means which tend to stop the discharges. He reports twenty-five cases treated by it, in doses of $\frac{1}{48}$ of a grain, dissolved in acetic acid and alcohol, repeated every quarter of an hour, sometimes every five minutes, until six or twelve doses are given, or till there is a reaction or specific effects. Twelve doses would make one-fourth of a grain. He thinks it has great power in sustaining the action of the heart and capillary vessels. His success he reports as twenty saved; and of the five others, one only died in collapse, the others in

the stage of reaction. I have had no experience with the drug given as here suggested; but as it was used together with means to stop the discharges, and these means are not specified, it is pertinent to inquire how the credit of these cures should be divided. The suggestion was made near the end of the last epidemic (1854), and there has been little opportunity to test its value.

Now, of collapse. *Electricity* has been tried. It seems to revive the energies for a little time. The current has been passed from the neck to the epigastrium, to excite the action of the diaphragm, and from side to side to stimulate the heart.

In one patient of Dr. Peacock, a child, the temperature in the mouth, rose from 88° to 92°, and the pulse became fuller under the influence of this agent, and the patient recovered; but the same physician was not able to sustain this success. Galvanism has a similar power. But, all considering, we may say of electricity and galvanism, that while in collapse they have the power of increasing warmth and bringing back the pulse temporarily, it is doubtful whether they have yet saved a single life. The *wet sheet*, used after the manner of the hydropathists, was tried pretty extensively in England during the epidemic of 1849. The result was a slight reaction, but it did not gain the grade of a curative agent. *Affusions* have been tried. Patients have been placed in a warm hip-bath, and both warm and cold water suddenly poured over the head, shoulders, and body. This is done quickly, and the patients are immediately placed in bed, in warm blankets. This plan has the power of producing some reaction, and is on the whole thought favorably of. Its effects are said to be better than those of the hot bath. *Oxygen* has been used in collapse by inhalation in a few instances, but it does not seem to have gained favor, because the temporary good effects have been followed by unfavorable results. The patients have almost all died. *Counter-irritation.*—Caspar dipped clothes in alcohol, laid them upon the abdomen, then set them on fire; but the patients did not get well for all that. Indeed it is striking that this sort of cauterization did not seem to produce much redness upon the surface to which it was applied. Milder counter-irritation, however, is generally resorted to; stimulating applications and warmth in various ways; mustard to the abdomen, the legs, and chest, particularly to the epigastrium, is hardly ever omitted. I do not suppose we can say that rubefacients, so used, have been of any *signal* service. They have the negative merit of innocence, and probably the positive one of arousing, in some degree, the failing nerve

powers, and of quickening somewhat the capillary circulation. *External warmth*, notwithstanding it is often disagreeable to the patient—notwithstanding his cold arms feel heated—is pretty generally received with favor. A moderate degree of artificial heat aids in restoring to the body its natural temperature, and improves the chances of recovery. *Emetics* have been proposed—of common salt, or mustard, or sulphate of zinc, or ipicac.; and the result of experience seems to be that they do to a certain extent arouse the heart to activity, that they bring a little warmth to the surface, and for a moment distribute the blood a little more evenly through the body. But they are not curative; their effect is temporary, and the discomfort they produce is often considerable. They may be useful in another way. One who has seen little of the disease can hardly understand why the vomiting it produces should not prohibit the use of emetic drugs; but that vomiting, though it may cause the ejection of a great deal of fluid secretion from the stomach, is not forcible and violent, and often leaves undigested food in the organ. This is demonstrated in examinations after death. Such undigested food has been found after two days and more of vomiting. To remove this is to remove a source of irritation, and an emetic will often do it. *Ice, and cold drinks.*—A distinguished writer on the treatment of cholera remarks that it is gratifying to find that the experience of the last epidemic has confirmed the whole profession in the use of ice and cold drinks for those in collapse and approaching collapse. The burning thirst is allayed by swallowing portions of ice. It is true that we have to contend with the disposition to vomit; but the chances of the patient seem to be improved in two ways—by relieving suffering, and supplying to some extent water, which his blood lacks. Cold drinks and ice, then, have been received with extraordinary favor; and though not heroic measures, if they palliate only, they give nature a better opportunity to do a kind act. Dr. Murray, in India, states that *injections into the rectum, at a temperature of* 120°, were in his hands of great service in restoring warmth to the body and giving force to the pulse. He used a weak solution of common salt and carbonate of soda, a pint at a time, and repeated it every half-hour, or less frequently. The injections were usually retained but a few minutes, yet sufficiently long to produce recognizable effects. It may seem that giving cold fluids by the mouth, and heated ones by the rectum, cannot both be defended; that one would neutralize the effects of the other. But cold applied to the mucous membrane, in the upper part of the alimentary canal,

diminishes the hyperæmia, the irritation, and the vomiting; while the injection falls upon a membrane less likely to be engorged, and probably increases the warmth of the body without doing any local mischief. Dr. Joel Foster, of this city, informs me that he has used warm injections for this purpose with advantage, and thinks he can cause them to be retained for a longer time by holding a compress against the anus.

Considerable success has been claimed in behalf of a *saline solution*, first proposed by Dr. Stevens, then of Jamaica. Believing that analysis showed some loss of saline constituents of the blood, it occurred to him that these could be restored by administering salts dissolved in water whenever the patient could retain liquids. Drs. Gull and Baly inform us that at the Cold-Bath Fields Prison other modes of treatment were tried, and the patients all died; the number was not very great, however, treated by other plans; for after five or six had died, the physicians adopted Dr. Stevens' method. The result was, that of patients so treated in the prison hospital, and in a lane in the neighborhood, forty-four out of forty-six recovered. This would be extraordinary success if the patients were all in the dangerous stage of the disease. Figures, as I have said, are uncertain guides when not attended by full explanations; yet we have but little else to trust, and so must do the best we can with them. The mixture used on this occasion was, bicarbonate of soda, half a drachm; common salt, one scruple; chlorate of potassa, seven grains; repeated every hour in such quantity of water as might seem expedient at the time of prescribing. Another solution has been used also, which is: common salt, half a drachm; tartrate of soda, twelve grains; phosphate of soda, eight grains; dissolved and taken at a draught. With reference to the appropriateness of these prescriptions, I may say a word when I come to another branch of the subject. This saline treatment of Stevens, though received with extraordinary favor in certain places, has not been successful in others, and the summing up by Gull and Baly is substantially this, that while at times it seems to have aided recovery materially, at other times it seems rather to have increased the evacuations and the danger. It has at least this merit—that when it is mainly relied upon, more dangerous medication is avoided. *Camphor* is a medicine that has been used pretty extensively in all the stages of this disease. In the collapse it has the reputation of allaying the cramps in a certain degree, and lessening the irritability of the stomach, and consequently the vomiting. It is certainly a safe medicine,

and is believed to be as good a diffusible stimulant as can be used; and given in solution in chloroform, is perhaps of some advantage.

I have here a manuscript paper which was sent me in 1854 or 1855, by Dr. O. H. Smith, then of Williamsburgh, now of New York, giving a summary of the treatment of cholera in the hospital of which he had charge in 1854. It contains one statement which I think is worthy of consideration. I present it to you in his own words:—"Sulphuric acid, so highly eulogized by Dr. Fuller, of St. George's Hospital, was prescribed, but I could get no good results from its administration. Strychnine, as recommended by Prof. Fraser, of McGill College, was given, and I think it may have had some effect in postponing the period of collapse; but I do not think it had any control over the rice-water evacuations. I gave this remedy in view of the opinion that cholera poison acts especially on the ganglionic nerve centres of the abdomen; but its effects were such that I put it down as a doubtful as well as dangerous remedy. I tried the oxide of bismuth. It seemed to have no control over the watery discharges; but I think it relieved to some extent the retching and vomiting, so constant after the discharges had been arrested. In all cases the abdomen was enveloped in strong mustard poultices." Dissatisfied with all these agents and means, except the last, Dr. Smith turned to brandy.* "To restrain the rice-water evacuations," he says, "I have ordered an injection into the bowel, containing an ounce of brandy, two or three ounces of strong tea, and five or ten grains of the sugar of lead, to be repeated after every discharge. At the same time I ordered a soft pill, containing quinine, calomel, and camphor, of each half a grain, to be given every fifteen or twenty minutes; the whole abdomen being covered with mustard poultices. The patient was also directed to take brandy and water every five minutes by the mouth." The vomiting and dejections soon ceased. The feature of this treatment which has been but little if at all tried, is the injection of diluted brandy into the intestines, and it is to this that Dr. Smith attaches chief importance; but he found that brandy diluted with water was equally beneficial. His results induce me to commend his

* I have to-day (July 18) received a letter from Dr. Smith, in which he informs me that Drs. Walser and Bissel, in the quarantine ships, speak favorably of brandy injections; that Dr. Otis and McLean have each treated a case on his plan with good results. These cases will be published in the *Record*. Dr. Dalton, Sanitary Superintendent, informs me that as far as he can judge from three or four cases reported to him, there is a probability that these injections will be useful.

method to further trial, notwithstanding the general opinion which is adverse to the use of stimulants of this kind during the particular stage of which we are now treating. Dr. Smith here reports the cases of two children having rice-water discharges, to whom the parents administered two or three tablespoonfuls of brandy in each case, and made the children fairly "drunk;" the discharges ceased—none occurred after the full effects of the brandy were felt. These cases taken alone, would argue strongly in favor of brandy and the free use of it. But two cases will hardly affect a rule derived from the observation of several epidemics.

There is another mode of treatment, if it can be so called. A considerable number of physicians having charge of cholera hospitals, observing the ill-success of all plans of treatment, have felt justified in leaving a number of patients without any treatment besides cold drinks and ice to satisfy their thirst, and proper bedclothes. Dr. Hutchinson says, referring to some he left in this way, that "The most valuable experience derived from the observation of the recent epidemic (that of 1854) is, that cholera patients should be disturbed by remedies as little as possible. And when in any case we are at a loss to known what treatment to adopt, or if we find the patient growing worse under the influence of remedies that we think best adapted to the case, the better plan is to rely on the *vis medicatrix naturæ*. This I have repeatedly done with much satisfaction; patients in the deepest collapse having reacted without any treatment; in one case without even ice, beef-tea, or external applications." Again he says:—"When the vomiting proved obstinate, nothing but lumps of ice and teaspoonful doses of beef-tea were allowed; but frequently even these were withdrawn, and the patient permitted to remain unmolested by any kind of treatment for twelve, fifteen, or twenty hours, with the most satisfactory results, even when there was great depression of the circulation, the skin cold and cyanosed, and the rice-water discharges continuing." Other physicians have made similar statements. Dr. Hutchinson's mortality was, however, not very light. He treated one hundred and seventy patients in his hospital, of whom ninety-seven died; eighteen were in the first stage, and all recovered; seventeen were in partial collapse, of whom one died; one hundred were in complete collapse, of whom eighty-two died; five died in the consecutive stage out of nine; and nine of other diseases, including diarrhœa, out of twenty-six. It does not seem then, do the best we can, that we have any great control over this stage of collapse.

Now a few words regarding injections into the veins in collapse; not because they have been established as useful, but because the results, however temporary, are very interesting. The plan was first proposed and put in practice by Dr. Latta, of Leith, Scotland. He used a saline fluid. He adopted for his injections this formula:—two or three drachms of common salt; two scruples of subcarbonate of soda, in six pints of water, to be injected at a temperature of 112°. He selects this temperature because, he says, if it is cooler it produces a chilly feeling in the patient; and if it is much warmer, even as warm as 115°, it stimulates the heart too much, and produces a sense of weakness and fainting, The report of his first experiment I will read you in his own words:—

"The first trial was made upon an aged female, whose case was utterly hopeless (indeed he feared she would die while he was making the preparation). Having inserted the tube in the basilic vein, anxiously I awaited the effects; ounce after ounce was injected, but no visible change was produced. Still persevering, I thought she began to breathe a little less laboriously. Soon the shrunken features, and sunken eye, and fallen jaw, and face pale and cold, bearing the manifest impress of death's signet, began to glow with returning animation; the pulse, which had long ceased, returned to the wrist, at first small and quick, but by degrees becoming more and more distinct, fuller, slower, firmer; and in the short space of half an hour, when six pints had been injected, she expressed herself in a firm voice, saying she was free from all uneasiness; she actually became jocular, and fancied all she wanted was a little sleep. The extremities were warm, and all the features bore the aspect of comfort and returning health (but hear the sequel); the purging and vomiting soon returned, and she died five and a-half hours after the operation."

This unfortunately, is the history of very much the larger number upon which this experiment has been performed; of almost all. Dr. Baly says he has attempted this medication in six cases, and all have died. Dr. Streeter says that the experience of the epidemic of 1849, in England, has settled the question, has determined the inexpediency of a resort to these injections. Dr. Latta, however, reports another case. It is his first, perhaps his only, successful one. The patient was a female, aged fifty, whose condition was hardly more hopeful than that of his first case. He injected one hundred and twenty ounces of the solution, the effect of which was magical. He says:—"The restoration appeared to be complete, but the diar-

rhœa returned, and in three hours she was again prostrated. Again he injected one hundred and twenty ounces of the same solution, and again he had favorable results. In twelve hours three hundred and thirty ounces had been injected, and the reaction was fairly established. In forty-eight hours she smoked her pipe. She was afterwards taken to the hospital, where she had some typhoid symptoms, but finally became convalescent." Dr. Lowery states that he has performed this operation twenty-six times, and had four successful cases, and believes that the injections must be introduced slowly. If as good a result as that can be obtained with any degree of uniformity, it would seem proper to resort to the operation, because cases in extreme collapse are the only ones on which it is ever attempted—cases regarding which there can be entertained no reasonable hope from any other method of treatment.

Dr. Johnson states in his "Notes," that Dr. Mackintosh has performed this operation on 156 patients, having had 25 recoveries and 131 deaths, and thinks that such a mortality is "frightful." It corresponds very nearly with that of Dr. Lowery's cases; and supposing all the patients to have been *in extremis*, I should be unwilling to adopt this epithet. It may be true "that if all these 156 patients had been left without treatment a larger proportion would have recovered; but it is at least a fact worth knowing, that about one in six of those whose veins have been filled with this very crude imitation of blood constituents could survive the experiment. To my mind it gives the hope that a better method may be attended by greater success.

It is reported, though I don't know who performed the operation, that in 1832 there was a single successful case in this city. Drs. Gull and Baly, in summing up the history of this treatment, seem to be of the opinion that it is worthy of further trial; though Dr. Streeter regards it as completely condemned. Dr. Hutchinson used saline injections in five cases, "but with only temporary benefit." Yet he thinks that when a proper liquid is found, the proper temperature determined, the rate of injection and the quantity fixed, and when skill has overcome the difficulties attending so delicate a procedure, it may still be capable of saving lives that would otherwise be lost. He used a solution containing three drachms of common salt and one drachm of alcohol to a pint of water, at a temperature of 100° to 115° injecting two pints; and repeating when the algid symptoms returned. He also used the solution by Dr. Gull which I will give you directly. But here let me remark that it

does not seem to me that a complex formula for the preparation of the fluid for injections is at all necessary. The object, of course, is to restore that which has been lost—and that is chiefly water; the evacuations from the bowels and the vomit are composed chiefly, as you will remember, of water, salt, and albumen, or albuminose. Then there is the intestinal epithelium, and nothing else of importance. In the examination of the blood, most analysts, except Dr. O'Shannessy, have reported an increased proportion of saline materials in the fluid which remains in the body. If there is then an increased proportion of saline materials, what the blood really wants is water, and not salts and water. If I were about to attempt an experiment of this sort, I would use either simple distilled water, or water with a very little common salt added.* Dr. Gull's formula is as follows—chloride of sodium, six parts by weight; chloride of potassium, the same quantity; phosphate of soda, three parts; carbonate of soda, twenty parts; of this mixture of salts one hundred and forty grains are to be dissolved in forty ounces of distilled water, and filtered. Filtering is important, because dust gets into all these substances when exposed.

I have here a pamphlet, published in Canada in 1854, containing a report of seven experiments of injecting cow's milk into the veins of persons in a collapsed state. The report is drawn up by Dr Borell; four of the trials were made by himself. He had two recoveries. A friend, who attempted it in three other cases, failed in each. The experiment was conducted in this way. A cow was brought near to the sick person, and the milk was used of the natural temperature and immediately; the bowl which held the milk was warmed and the syringe was warmed. The amount of milk used was eight to twelve ounces. My impression is, that the quantity of fluid should be considerably increased; it does not correspond at all, in these experiments, with the quantity of fluid usually lost in the dejections; yet the success is two in seven. In the other cases there was some revival of the vital powers, but they sank again; whether they would have been again revived had the injection been repeated, we cannot now decide. The pamphlet is an interesting one, containing the reasonings by which Dr. Borell came to the conclusion that it would be safe to inject milk into the veins.

Dr. A. N. Gunn, late Health Officer of this port, stated in the Academy of Medicine, since these lectures were delivered, that in 1832 injections of saline fluid were unsuccessful in the Hospital to which he was attached as assistant, and had been forbidden; and that afterwards, as he believed, three or four patients were saved by injecting into the veins pure warm water.

I return once more to Dr. Johnson, to state to you his views of the treatment of cholera. You will recollect that he regards the evacuations as salutary in eliminating the poison that oppresses and may overwhelm the vital powers. I may here say that this is not a new opinion. Dr. Johnson does not claim that it is original with him. Many physicians have been led to the same conclusion, some of whom he quotes. Dr. Hutchinson, whose paper I have often referred to, a close observer has come to the same conclusion. He says:—"Whenever a patient was admitted into the Brooklyn Cholera Hospital with copious and frequent vomiting and purging, especially of rice-water fluid, if the discharges were not involuntary, a favorable termination usually occurred, and *vice versa;* and instead of death being the consequence of such symptoms, the conclusion seems more rational that they are curative means adopted by nature to eliminate the poison from the system. Instead, therefore, of arresting the discharges, it was deemed best *to let them stop.*" Dr. Johnson goes beyond this; he is not satisfied to let them stop, but would augment them by mild cathartics, emetics, and enemata. He asks us to admit that calomel, if it cures, acts not as an alterative, or sedative, or cholagogue, but as a cathartic; that the saline mixture of Dr. Stevens is really efficacious, not because it restores the lost salts, but because it is a laxative; and he urges that the English physicians in India treated the disease with more success than the European physicians, because they were not afraid to give cathartics and at the same time call them by their right name. Dr. Johnson, in 1855, reported fifty-four cases of cholera and choleraic diarrhœa treated on this plan.—(*Epidemic Diarrhœa and Cholera, &c.*)

I have examined with some care these cases, and I am compelled to admit that I do not know any detailed reports that give better results. It is not to be forgotten, however, that the cases all occurred between the 11th of August and 28th of September, 1854; in other words, in the decline of the epidemic in London. The seventeen cases of choleraic diarrhœa all recovered; and of thirty-seven cases of cholera, all reported to have been in collapse more or less severe, twenty-three recovered. Many of these cases appear to me to have been mild; some that were considered as in collapse present very few of the symptoms of that state, but the cases numbered 2, 7, 8, and 48 were severe enough to test the virtues of any treatment, and they recovered. The great feature of the treatment is the administration of castor-oil in half-ounce doses every half-hour for several hours, then the same dose every hour, and later

every two or three hours. Thus varied in frequency, these doses are continued usually from one to four days. In one instance recovery followed ounce-doses given every hour till five were taken. In one case (8) of extreme collapse, a girl nine years old took fourteen doses of an ounce each between 7 A.M. and 5½ P.M., then after an interval of nine hours she took seven half-ounce doses in ten hours; at the end of twenty-four hours half an ounce, and three days later another half-ounce, which last portion seemed to stop a diarrhœa that had continued during convalescence. She took in all eighteen and a-half ounces of castor-oil. In another case (17) of collapse, the patient took in half-ounce doses twenty-two ounces of the oil during the first day, but vomited nearly all of it; the second day and following night he took seventeen ounces, very little of which was vomited. The purging produced, the author thinks, was hazardous, but the patient revived. One patient (48) took thirty-five ounces of oil in a little more than four days, having vomited during this time 125 times. This quantity of oil, the author thinks, was twice as much as was required. The patient recovered.

I do not discover in the examination of these cases any precise rule relating to the quantity of oil to be given. If it caused vomiting it was still acting as an evacuant, and was not discontined for that reason. If it did not act in this manner, an emetic was administered in some of the cases. In full collapse Dr. Johnson seems to prefer mustard and salt as an emetic, and gives it before the oil is taken. When the oil does not prove cathartic, he uses salt and water enemata. In some instances he gave calomel with the oil, two to five grains, and if in the smaller doses, it was repeated three or four times. He applies warmth to the stomach and extremities, and uses other adjuvants, but does not speak favorably of ice and cold water, because he thinks they suspend the elimination of the poison. Such is the plan for which Dr. Johnson asks free but unprejudiced criticism. In the present state of our knowledge theoretical criticism goes for very little. The single question is, will this method save more lives than any other? In Dr. Johnson's hands it has done as well at least as any other of which I have seen the detailed reports; but the trial alone can teach us what it can do at the commencement of an epidemic. He does not claim that he has found a specific for cholera. He says, indeed in "Notes on Cholera," p. 87:—"There is no remedy which has the slightest pretensions to be considered a cure for cholera; no drug or agent which, so far as we know, will neutralize

the poison or lessen its virulence. I have not the faintest hope or expectation that a specific remedy for such a disease as cholera will ever be discovered." While I would not discourage the attempts to cure cholera by evacuants, and do not doubt that Dr. Johnson's results are as satisfactory as almost any that have been published, allowance, however, being made for the stage of the epidemic to which his practice was applied, yet there is a pertinent inquiry regarding the first stage of the disease. How does it happen that agents which restrain the discharges are so efficacious in that stage? It is the almost universal practice to give them, and this of itself is one of the strongest proofs that they are proper and useful. If the poison can be eliminated by emetics and cathartics, it would seem that this is the stage in which they should be most demanded, and in which the agents which suppress discharges would be most harmful. We know but little about the modes in which animal poisons are eliminated; we do not know, indeed, that they are eliminated at all through the evacuations; we know that some of them, or rather portions of them, escape from the body, as in small-pox; but this is not an elimination that purifies the sick man, or relieves him of a single bad symptom. The poisonous principles of typhus and typhoid fevers, of measles and scarlet fever, are not eliminated before the patient begins to recover; for these diseases are communicable during convalescence. The diarrhœa of typhoid fever does not diminish the danger of the patient. Intermittent fever is suspended while the miasmatic poison still remains in the system. There is no evidence whatever that it is in the power of drugs to extract a miasmatic or an animal poison from the body, and so purify it, say what we may of depuration. Still, Dr. Johnson is not to lose the credit of his experiment. Many of his patients recovered while taking castor-oil. That fact will stand, whatever its explanation may be.

Book Notices.

MEDICAL ELECTRICITY: EMBRACING ELECTRO-PHYSIOLOGY AND ELECTRICITY AS A THERAPEUTIC, WITH SPECIAL REFERENCE TO PRACTICAL MEDICINE; SHOWING THE MOST APPROVED APPARATUS, METHODS, AND RULES FOR THE MEDICAL USES OF ELECTRICITY IN THE TREATMENT OF NERVOUS DISEASES. By ALFRED C. GARRATT, M.D., Fellow of the Mass. Med. Society; Member of the Amer. Med. Association. Third Edition, revised and illustrated. PHILADELPHIA: J. B. LIPPINCOTT & Co. 1866.

This is a ponderous volume of 1103 pages, published in good style, on good type and paper, and illustrated by 138 cuts.

The work is divided into twelve chapters, embracing the following subjects:—Natural Electricity; Early History of the Medical Uses of Electricity; Electro-Physiology; Electrical Instruments and Apparatus for Medical Purposes; Methods for the Employment of Electricity; Hyperæsthesia; Anæsthesia; Spastic Diseases; Midwifery; Nervous Affections of the Thorax and Abdomen; Feigned Nervous Affections—Sea Sickness; Electricity in Surgery. These headings, with the copious title-page, are sufficient to indicate the extent and great importance of this volume. The subjects of which it treats are among the most interesting and important, both in a physiological and therapeutic view, that can engage the attention of the student and practitioner. How far the author of the present treatise has succeeded in presenting the facts, at present known to the scientific portion of the profession, relating to each topic discussed, we cannot say; for our time has been too closely occupied with the practical duties of our profession to enable us to give the work a careful perusal. Every student and practitioner, however, will be abundantly repaid for the purchase and careful study of the work.

On Spermatorrhœa: Its Causes, Symptomatology, Pathology, Prognosis, Diagnosis, and Treatment. By Roberts Bartholow, A.M., M.D., Prof. of Physic and Med. Chemistry, in Med. College of Ohio; Lecturer on Clinical Medicine, and Physician to St. John's Hospital, Cincinnati, etc., etc. New York: Wm. Wood & Co., 61 Walker Street. 1866.

This is a very neatly printed monograph of 112 pages. The style of the author is clear, concise, and pleasing; and his practical views judicious. In regard to the special pathology of spermatorrhœa, he says:—"The pathological conditions may be comprehended in three groups—genital; cerebral; spinal. In the first, or genital form or phase, which is the most common, there are excessive sensibility of the sexual apparatus, and greatly increased reflex excitability of the cord. In the cerebral form, there are associated with the preceding condition, certain disorders of the mind—melancholia, delusional

insanity, and mania. In the spinal form, the functional derangement of the cord is either excessive and pronounced, or has resulted in organic lesion." With such diversity in the pathology of different cases, there must follow equal variations in the treatment. Hence, the seeker after specifics will find no comfort in reading this work. The rational practitioner, however, will find it worthy of a place on his table.

Editorial.

CHICAGO MEDICAL SOCIETY.—The regular meeting of this Society was held on the evening of the first Friday in August. Dr. E. L. HOLMES reported a case, in which he had occasion to have a strong solution of atropine dropped into the eye of one of his patients, at short intervals, for twenty-four hours in succession, when severe and well-marked symptoms of the general effect of atropine upon the whole system began to be manifested, and were continued for a considerable time. Dr. NELSON related a case, in which a solution of atropine dropped into the eye twice, caused a dilatation of the pupil that continued through a period of ten days, but was not accompanied by any general disturbance of the system. These cases elicited additional observations and facts from Drs. INGALLS, ROSS, and DAVIS.

Encephaloid Tumor.—Dr. BOGUE presented to the Society a tumor taken from the arm of a young girl in Cook County Hospital. The tumor had first made its appearance after a blow on the forearm, one or two years previous. It was about the size of a small hen's egg, and seemed to originate wholly from the skin. It was soft, somewhat lobulated, nearly destitute of fibrous tissue, and a portion of it examined by Dr. LYMAN, presented in the field of the microscope but little else than granules.

Narcotism.—Dr. WANZER related a case of poisoning by opium. The patient, a married woman, was represented as having

taken two ounces of laudanum, for the purpose of self-destruction. The narcotism was such that the stomach appeared, at first, insensible to the action of an emetic, but dashings of cold water so far aroused the sensibility that free vomiting ensued; after which, the frequent dashing of cold water was kept up for several hours, and the patient recovered.

After some further discussion, the Society adjourned until the third Friday in August.

MORTALITY FOR THE MONTH OF MAY.—The mortality report for the month of May, as compiled by the health-officer, is given below. The statistics show an increase of 25 deaths over the corresponding period of last year, the increase being chiefly in those diseases resulting from colds. Consumption, as usual, has reckoned among its victims a large proportion of those who have died. There is no epidemic in the city, and no cases of small-pox have appeared for several months.

CAUSES OF DEATH.

Accidents,	5	Fever, Typhoid,	12
Bright's Disease,	2	Fever, Typhus,	1
Bronchitis,	1	Hemorrhage,	1
Cancer,	3	Hydrocephalus,	4
Childbed,	3	Inanition,	1
Cholera Infantum,	1	Inflammation,	2
Colic,	2	Inflammation of Brain,	4
Congestion of Brain,	6	Inflammation of Bowels,	7
Congestion of Lungs,	3	Inflammation of Bladder,	1
Colds,	2	Inflammation of Lungs,	14
Consumption,	38	Inflammation of Pleura,	1
Convulsions,	23	Inflammation of Kidneys,	1
Croup,	9	Marasmus,	1
Diarrhœa, Chronic,	2	Measles,	7
Diphtheria,	6	Old Age,	6
Disease of Bowels,	1	Poisoning,	1
Disease of Bladder,	1	Rheumatism,	2
Disease of Heart,	5	Rupture,	1
Disease of Liver,	3	Small-Pox,	1
Disease of Lungs,	2	Stillborn,	10
Dropsy,	7	Tumor,	1
Drowned,	4	Teething,	14
Dysentery,	3	Tuberculosis,	1
Erysipelas,	4	Unknown,	31
Fever, Childbed,	2	Whooping-Cough,	3
Fever, Congestive,	2		
Fever, Scarlet,	7	Total,	275

AGES OF THE DECEASED.—Under 5 years, 134; over 5 and under 10 years, 14; over 10 and under 20, 11; over 20 and under 30, 27; over 30 and under 40, 31; over 40 and under 50, 22; over 50 and under 60, 7; over 60 and under 70, 13; over 70 and under 80, 4; over 80 and under 90, 2; unknown, 10. Total, 275.

NATIVITIES.

Chicago,	124	Canada,	7	Switzerland,	1
Other States,	47	Ireland,	26	Holland,	2
England,	4	Scotland,	3	Unknown,	13
Germany,	40	Sweden,	3		
Denmark,	7	Norway,	4	Total	275

DIVISIONS.

North, 78 | South, 78 | West, 114 | Unknown, 5
Total, 275

SURGICAL INSTRUMENTS. We have received a very complete illustrated catalogue of surgical instruments of GEO. TIEMANN & Co.'s manufacture, issued by their agents, Messrs. BLISS & SHARP, 144 Lake Street, who will furnish them to the profession on application.

OBITUARY RECORD.—Died, at Tunbridge Wells, on February 11, 1866, W. T. Brande, Esq., F.R.S., aged 81. Dr. B. early in life devoted himself to chemical studies, and was for some time assistant and afterwards the successor of Sir Humphrey Davy, as Professor of Chemistry to the Royal Institution of Great Britain. He was a voluminous writer.

MORTALITY FOR THE MONTH OF JULY.—Below will be found the mortality report for last month, as prepared by health-officer Bridges. It will be noticed that there is a great increase in the number of deaths not only over last month, but over the corresponding month last year; the number of deaths being much greater than in any month heretofore, either this year or during any previous year, except in that year when cholera made such ravages among our population. The great mortality last month was undoubtedly owing to the excessively hot weather, united to the carelessness of the people in matters of diet and to uncleanliness, a fruitful source, in itself, of many of the evils to which humanity is heir, in the summer season especially. The table below will show that the greater number of deaths have been from diseases more peculiarly belonging to summer. Of course, as the city has increased in the number of its population, even during the last twelve months, some allowance must be made for an extra large number of deaths, naturally resulting from that cause. The number of deaths for

July, 1865, was 425, and for the month just ended, 706, an increase of over 60 per cent. over the former month.

CAUSES OF DEATH.

Accidents,	14	Fever, not stated,	1
Abortion,	1	Gravel,	2
Cancer,	3	Hydrocepholas,	6
Childbed,	2	Inflammation of Brain,	15
Cholera-Morbus,	10	Inflammation of Bowels,	11
Cholera Infantum,	35	Inflammation of Lungs,	12
Congestion of Brain,	7	Intemperance,	3
Congestion of Lungs,	4	Killed,	3
Consumption,	28	Measles,	67
Convulsions,	59	Marasmus,	1
Croup,	15	Old Age,	13
Delirium Tremens,	2	Paralysis,	1
Decline,	3	Rheumatism,	2
Diarrhœa,	21	Small-Pox,	2
Diarrhœa, Chronic,	2	Stillborn,	12
Diphtheria,	6	Summer Complaint,	159
Disease of Heart,	10	Suicide,	2
Disease of Liver,	5	Sunstroke,	2
Disease of Throat,	1	Teething,	30
Dropsy,	3	Tumor,	7
Drowned,	5	Typhoid Pneumonia,	2
Dysentery,	29	Whooping-Cough,	15
Fever, Remittent,	1	Worms,	1
Fever, Childbed,	1	Unknown,	42
Fever, Scarlet,	14		
Fever, Typhus,	1	Total,	706
Fever, Typhoid,	18		

AGES OF THE DECEASED.—Under 5 years, 518; over 5 and under 10 years, 33; over 10 and under 20, 13; over 20 and under 30, 35; over 30 and under 40, 45; over 40 and under 50, 22; over 50 and under 60, 12; over 60 and under 70, 9; over 70 and under 80, 9; over 80 and under 90, 1; over 90 and 100, 1; unknown, 8. Total, 706.

NATIVITIES.

Chicago,	474	France,	1	Mexico,	1
Other States,	72	Holland,	3	Switzerland,	2
Canada,	3	Ireland,	44	Sweden,	6
Denmark,	2	Norway,	13	Unknown,	9
England,	6	Bohemia,	1		
Germany,	62	Scotland,	3	Total,	706

DIVISIONS.

North,	190	South,	196	West,	315	Country,	5
Total,							706

DEODORIZING PROPERTIES OF GROUND COFFEE.—Dr. Barbier affirms that ground coffee possesses some remarkable properties as a disinfectant. In several cases where he had to make *post mortem* examinations of bodies under *very disagreeable* circumstances, he found that a handful of coffee strewn over the body and about the room quite overcame any bad odor.—*Lancet.*